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REPORT OF A CASE OF PRIMARY MYOMA OF THE BROAD LIGAMENT, AND A TABLE OF SEVENTEEN COLLECTED CASES.

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[Read before the Gynæcological Society of Chicago.]

I have the pleasure of presenting a specimen of a fibroid tumor, resembling those of the uterus, and calling your attention to a small group of neoplasms termed by Sänger "primary desmoid tumors of the broad ligament."

1. The patient from whom this specimen was removed was a well-developed woman, 35 years old. She had been twice married. By the first marriage she was without issue. About a year after the second marriage she gave birth to a child that is now three years old. At this confinement there was a laceration of the cervix uteri, which was operated upon in February, 1886. The pelvis was thoroughly examined at that time, while the patient was under the anæsthetic, and nothing abnormal detected. Following the operation there was a slight retroversion, which was treated with a pessary for a month or two. Toward the last of May, 1886, this pessary was removed by the patient herself. The menstruation was scanty in June, and she consulted her physician, who concluded from an increased size of the uterus that it was pregnant, and refrained from further examination. In July again the menstruation was normal, and an examination at that time first discovered a small tumor, about the size of a black walnut, just behind the uterus. The patient was put in the knee-chest position and the tumor pushed back almost out of reach. It was movable, and free from the uterus. The tumor had all the appearance of a displaced, enlarged ovary, and it was so considered at the time. Repeated examinations during the following months revealed its rather rapid growth and its increasing immovability. A dull fluctuation was repeatedly detected. At last the inconvenience to the patient became so great that she decided for herself that it should be removed.

The patient had never had any pelvic inflammation, and the puerperium was unattended by sepsis.

I had the privilege of making the necessary antiseptic preparation antecedent to the operation. Every scientifically indi-

cated preliminary precaution in the preparation of the room, the instruments, the patient, and the operators, was taken. The room was large and airy, having three south windows and one opening to the west. The house was a frame dwelling which had been in use many years. The floors were carpeted throughout the house. I had the carpet removed from the operating room, which was on the second floor, all the woodwork thoroughly scrubbed, and the walls freshly papered. There was not sufficient time to lay a new floor, and the old one was too much worn to be made clean. I had it covered with a carpet of thick, white duck. After this had been tacked down, all the woodwork and the necessary furniture and this carpet were scrubbed with a 1:1000 sublimate solution. Just before the operation the temperature was raised to 90° F., and a pound of carbolic acid evaporated in the room.

The operation was performed on the morning of the 5th of June, 1887. There were present the operator, Dr. J. W. Streeter, three assistants, and the nurse. Upon opening the abdomen, it was found impossible to bring the tumor in the line of the incision. It lay close to the laterally turned uterus, and occupied all the space in the right side of the pelvis. It was found impossible to move it in any direction more than an inch. Two-thirds of the tumor was visible, covered by smooth peritoneum, which was reflected backward and directly forward upon the walls of the pelvis. No ovary was found on the right side. The left ovary seemed perfectly normal. The tumor felt hard, elastic, and smooth. A transverse incision was made through its peritoneal covering, and the tumor carefully enucleated with dull instruments. There was very little hæmorrhage. The broad base from which the tumor was removed was then sewed through with a curved needle and strong silk. This was tied at every stitch. The peritoneal edges were trimmed off, turned in, and fastened with fine silk. The operation lasted two hours. During the following day the patient's temperature rose to 103° F., but it gradually fell to below 100° at the end of the second day. There was no other unfavorable symptom. The sutures were removed from the abdominal wound on the fourth day, and the second and last dressing applied to the abdomen. There was not a particle of suppuration at any time, nor any pain in the line of the abdominal cut, or in the region of the operation. There was just a show of blood on the vaginal tampon where it lay against the os uteri. The patient was somewhat troubled with borborygmus during the first week, and at the end of a month had an attack of gastro-enteritis. She has now regained her former health and strength, and has menstruated regularly and normally.

The tumor which I pass around has all the appearance of a uterine fibroid. It is almost perfectly spherical and smooth. It is about the size of a man's fist. The cut surface is smooth and white, with a few cavernous sinuses, filled originally with a clear, serous fluid. A piece of the fibrous capsule is still attached to one side of the tumor. The drawings which I present were made from stained sections, with a one-tenth inch immersion objective, and an inch eye-piece. The nuclei resemble very much those of unstriped muscle-fibers. There is very little, if any, pure fibrous tissue to be found in the body of the tumor. Near the blood vessels, the nuclei are ovoid or spherical, and very large. These are, no doubt, the round cells noticed by Kleinwächter (49) in small uterine fibroids. They seem to be well-nourished cells, undergoing rapid mitosis, or indirect cell division. These large, round cells are easily distinguished from tranverse sections of the long nuclei by their size and arrangement.

This tumor, then, is leiomyoma—that is, the myoma which originated from a matrix of smooth muscle tissue.

Whatever may be the cause of the development of a neoplasm, it is doubtless

necessary that it should have a matrix of at least as highly specialized a grade as that presented by the tumor itself.

Such a matrix is found in the uterus, in the uterine ligaments, in the base of the ovary, in the walls of the bladder, and in the abdominal wall.

(*a*) A consideration of the history of the case shows conclusively that this tumor did not originate as a sub-peritoneal fibroid of the uterus. When first observed, it was quite a distance from the uterus, and freely movable from it in the pelvis. The pelvis was thoroughly examined under an anæsthetic four months previous to the appearance of the tumor and nothing found.

It does not seem possible that a fibroid of the uterus could be so completely displaced either by puerperal contraction, or by the traumatism it suffered at the operation in February.

There remain to be considered the possibilities of an ovarian or a ligamental origin for our tumor.

(*b*) We have four methods of demonstrating the presence of smooth muscle-fibres in the broad ligament—the embryological, the anatomical, the physiological, and the pathological. The uterine ligaments contain plain muscle-fibers, which are prolongations of the superficial embryonal layer of the uterus. These fibers extend through the ring into the mons veneris, and out on the abdominal wall to the *linea alba*, and up over the posterior wall of the bladder.

Anatomically, these smooth muscular fibers have been found and described by Rouget (14), Klebs (16), Henle (17), and Luschka (19). They are also mentioned in Quain's Anatomy.

They have also been assigned an important role in initiating labor (18). In examining the wall of cysts of the broad ligament, Spiegelberg (20) and Lawson Tait (21) have seen layers of unstriped muscular fibers three or four millimeters long. Other investigators have sometimes found and sometimes missed these bundles in the walls of parovarian cysts. There is, then, no doubt that a suitable matrix for the development of leiomyomas is found in the broad ligament.

Graetzer (26), investigating the origin of the tumors of the abdominal wall, has opened up all the possibilities of the origin of fibroid neoplasms in every part of the body. According to the theory of Cohnheim, there must be a matrix derived from the mesoblastic layer of the embryo. Thus the fibroids of the skin arise from *musculi erectores pili;* those of the æsophagus, stomach, intestinal canal, and prostate, from the plain muscular fibers of these organs, and those of the abdominal wall, from fibers going out from the uterus through the ligaments in the direction of their embryonal attachment.

Twelve well diagnosticated connective-tissue tumors of the round ligament have been collected by Sänger (2). These represent almost every possible theoretical position in which such a neoplasm could be found, namely, in the round ligament, in the pelvis, in the canal and outside the canal, in the walls of the abdomen, or in the *labia majora*.

Small fibroids have been occasionally found in the broad ligament. Virchow (9) has made such an observation. The tumor was as large as a bean, and so far removed from the uterus and from the ovary that no relation of origin to them could be considered. Such tumors have been thought by many investigators to arise from a displaced fragment of the ovary, or an accessory ovary.

If any doubt remained of the possibility of the primary origin of fibroid, or better, of desmoid, tumors in the broad ligament, the careful consideration of Cohnheim's post-mortem examination, reported by Freund (28), would remove it. He found on the posterior wall of the uterus and of the bladder, and between the leaves of the broad ligament, even to the outer end of it, numerous isolated myomas of all sizes, from a cherry to an apple.

Sänger (1 and 2) has collected eleven cases of primary desmoid tumors of the broad ligament, which reached a considerable size. There are several observations by other authors which swell the number of observed cases to nineteen or twenty.

Then it is both possible and probable that our tumor arose originally from the broad ligament in which it was found. It is still necessary to show that it did not arise from the ovary.

(*c*) There are, at least, three reasons for thinking that it did not arise from the ovary, namely, the form of the tumor, the microscopical elements of the tumor, and its manner of attachment.

The fibroids of the ovary are simply hypertrophies of the connective tissue of the ovary, and therefore their contour is irregular and nodulated, and not smooth and spherical like ours.

Fibroids of the ovary are composed almost entirely of fibrous tissues, and unstriped muscle-fiber is rarely and sparingly found, while our tumor is composed almost, if not entirely, of plain muscle-fibers.

Fibroids of the ovary have been shown by Leopold (28) to be connected with the ligament by a long, simple pedicle, which does not include the tube. Our tumor lay deep and sessile in the pelvis.

It is not significant that a diagnosis of an ovarian tumor was made before the operation, as this has been repeatedly done by other operators in the case of solid tumors and cysts of the ligaments.

Neither does it matter that the right ovary was not recognized, as it is frequently melted down on the surface of large cysts and becomes almost unrecognizable through pressure atrophy.

I conclude after all these considerations that this is a true primary leiomyoma of the broad ligament.

A table is appended to this article, giving a synopsis of the eleven cases collected by Sänger (1 and 2), to which I have added six other cases. Three of these are from Freund (28), one is from Bantock, and one is from an unpublished case of Fenger, and the other is the case I have just described.

In only six cases was the true position of the tumor recognized before the operation, namely, Schmid's, Miculicz's, Freund's three cases, and Fenger's.

Cystic, cavernous, and sarcomatous myomas, as well as simple myomas, are represented.

The average age of the patients is about thirty-two years, the extreme being nineteen and forty-two.

It is probable that these tumors are not as rare as this limited number would indicate, but that in the advanced stage of growth in which they come to operation, the ovary becomes drawn out and lost on the wall of the tumor, which then seems to have arisen from the lost ovary. An earlier examination would perhaps have revealed their true position.

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LITERATURE ON TUMORS OF THE BROAD LIGAMENT.

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28. FREUND, A. W. Gyn. Klinik. i, 1885, pp. 289–293.

29. KLEINWÄCHTER. Zur Entwickelung der Myome des Uterus. Zeitschr. f. Geburtsh. u. Gyn., Bd. ix, p. 68.

30, LEOPOLD. Die soliden Eierstocksgeschwülste. Arch. f. Gyn., vi, 235.

TABLE OF SEVENTEEN COLLECTED CASES.

Observer.	Age of Patient.	Tumor recognized.	Symptoms.	Fluctuation.	Diagnosis before the operation.
1. Schetelig. Arch. f. Gyn., I., 259.	41 years. Multipara.	2 years.....	Tumor elastic. In general form spherical; in places irregular and hard. Above the symphysis a tympanitic zone. Uterus movable and normally located.	Fluctuation indubitable.	Ovarian cyst. Diagnosticated by another surgeon.
2. Schmid. Prager med. Wochens.,1878, No. 35, 260.	35 years. One Child.	1¼ years after delivery.	After previous peritonitic symptoms, rapid development in the right pelvic cavity of a movable tumor. Decendens uteri. Prolapse of the anterior vaginal wall.	Wanting....	Solid tumor of the right broad ligament. By internal examination both ovaries were recognized.
3. Miculicz. Wien. med. Wochens., 1879, No. 21, 261.	.....	.....	Periodical pain in the pelvis. For two or three years ascites present. Umbilical hernia since one year. Tumor freely movable, somewhat uneven, as large as a man's head.	Wanting ...	Solid tumor of the broad ligament.
4. Gayet. Lyon Medical, 1874, No. 9, p. 273.	42 years. Multipara.	7 years.....	All the appearance of a simple ovarian cyst.	Present. Very pronounced.	Ovarian cyst with short pedicle.
5. Sänger. Arch. f. Gyn., XVI., 284.	19 years. One Child.	10 months.....	Failure of the menses to appear for seven months. Patient considered herself pregnant. Prolapse of uterus and vagina.	Present. Very pronounced.	Left side ovarian cyst.
6. Bardenheuer. Drainirung d. Peritonealhoehle. Stuttgart, 1881, S. 113-118 (in Hegar).	.....	....	A large tumor which was located deep in the pelvis and extended somewhat above it.	.....	....
7. Péan. (in Hegar).	.....	.....	....	....	....
8. Buschmann (operator, Billroth). Wiener Wochenschrift. 1880, No. 28.	24 years 4-para.	.....	Increase in the circumference of the abdomen for three years. Dull elastic consistency. The percussion dullness extended to that of the liver and spleen.	.....	....
9. Rydygier. Deutsche Zeitschrift für Chirurgie, XV., p. 279.	Multipara..	....	.....	Pseudo-fluctuations.	Solid pediculated tumor of the uterus.

TABLE OF SEVENTEEN COLLECTED CASES.

Condition found at the operation.			Operation.	Anatomical diagnosis.	Result.	Remarks.
Pedicle.	Uterus.	Ovary.				
Long, somewhat thick; attached to the right broad ligament.	Normal..	Normal	.....	Cystomyoma teleangiectodes cavernosum ligamenti lati dextri.	No operation. Death from chronic peritonitis spreading out from local suppurative peritonitis.	Uterus free without any attachment to the tumor. Left ovary normal. Right ovary drawn up on the anterior, under surface of the tumor.
Thin. in necrosis.	Free, infantile.	Right ovary in necrosis wholly separated from the tumor. On the left ovary a pea-sized, pedunculated fibroma.	....	Fibro-sarcoma of the right broad ligament. Wgt. 16 lbs.	Pedicle dropped. Course without fever. Healing by first intention.	.....
Wanting.	Normal..	Normal	.....	Fibroma of the right broad ligament. Tumor strongly edematous. Wgt. 10 lbs.	Pedicle dropped. Recovery retarded by secondary intra-abdominal hæmorrhage and abdominal abscess.	On the ovarian side of the tumor, arising from the right parovarium a small dermoid cyst.
Short and small.	Normal..	The left ovary behind the anterior tumor edematous, beset with follicular cysts, free from the ligmentum latum. Right ovary apparently normal.	.....	Cystomyoma of the left broad ligament.	Attempted removal. Suturing of the residue of the cyst in the abdominal wall. Gangrene of the pelvic tissues. Death on the 14th day.	.....
.....	.....	.....	.....	Pibromyoma hydropicum Ligamenti lati sinistri. Double tumor. The anterior small, intraligamentous, the large one extra ligamentous, intraperitoneal and pedunculated. Wgt. 16 lbs.	.....	.....
.....	.....	.....	Laceration of the anterior wall of the rectum. Intestinal suture. Injury of a large parametrian blood vessel in arranging the drainage.	Intraligamentous myoma.	Death four hours after the operation from hæmorrhage.	.....
Short	.....	.....	Pedicle treated as an ovarian pedicle.	Medullary sarcoma of the broad ligament.	Death on the second day of peritonitis.	.....
None present.	Free without attachment to the tumor.	.....	Vigorous hæmorrhage in separation from the peritoneum. The tumor had grown from the back side and turned forwards.	Retroperitoneal fibro-myoma, by which the kidney which lay in the pelvis was deformed. The sessile tumor lay between the leaves of the ligamentum latum. Wgt. 36 lbs.	Death from peritonitis on the fifth day.	The tumor was very vascular and gave the impression of a firm jelly-like tumor. It was covered with a very thin peritoneum
None ...	On the uterus, two subperitoneal tumors about the size of small apples.	Free	The tumor was raised out of its place without the aid of instruments and without the application of a ligature. The anterior leaf of the broad ligament was grown fast to the abdominal wall.	Fibromyoma between the leaves of the right broad ligament. The tissues were here and there colloid degenerated.	Recovery.....	.....

TABLE OF SEVENTEEN COLLECTED CASES.

Observer.	Age of Patient.	Tumor recognized.	Symptoms.	Fluctuation.	Diagnosis before the operation.
10. Chimiaux. Arch. de Tocol. et des mals des femmes, Juillet 1880, p. 439.	32 years. Multipara.	....	The tumor grew steadily but without pain. It appeared to arise from the uterus. It moved with its movements. Remarkable developments in the course of a half year.	.....	Solid pediculated tumor of the uterus.
11. Schroeder. Sitzung der Gesellschaft f. Geburtsh. u. Gynaek. Berlin, June 8th, 1880. Berlin Klin. Wochensch., 1881.	.....	.....	..... "	.....	....
12. Freund; Gynaekologische Klinik, 1885, p. 289–293.	32 years. Multipara,	Recognized 5 years, walnut sized, somewhat uneven, solid, elastic, growing more backward, separated from two smaller cherry-sized tumors by a distinct groove. Uterus movable. Both sound ovaries easily recognized.	Pain in the pelvis several weeks after her first normal labor, protracted menstruation. The tumor grew slowly, but undoubtedly.	None..	Fibroid of the left broad ligament.
13. Freund. Loc. cit.	30 years. Nullipara.	.....	... .	.....	Double fist-sized myoma of the uterus and a tumor in the left broad ligament.
14. Freund. Loc. cit.	32 yrs. Sterile wife for ten years.	14 days after the removal of a subperitonal myoma as large as a man's fist, a plum-sized tumor of the left broad ligament was detected.	....	.....	Solid tumor of the left broad ligament which became as large as a child's fist, still separated from the uterus by a distinct furrow.
15. Bantock. The Brit. Gyn. Jour. X., Aug., 1887.	.....	Tumor recognized 9 months before operation, soon after the birth of the last child.	....	.....	Believed to be ovarian.
16. Fenger. Unpublished.	29 years. Multipara.	About one year.....	Caused little inconvenience, but aroused the suspicion of pregnancy.	None.....	Solid tumor of the left broad ligament. Separated from the ovary and uterus by a recognizable space, filling the pelvis and extending half-way to the umbilicus. Somewhat movable. Uterus and ovary separately movable.
17. Myself. (Operator Streeter.) In this article.	35 years. 1-para.	Tumor recognized 11 months before operation, when it was movable from the uterus.	....	Pseudo-fluctuations.	Tumor of the right ovary.

See also a report of a specimen exhibited by Dr. Constantine Goodell, Am. Journal of Obstet., Vol. X, p. 178, 1887.

TABLE OF SEVENTEEN COLLECTED CASES.

Condition found at the operation.			Operation.	Anatomical diagnosis.	Result.	Remarks.
Pedicle.	Uterus.	Ovary.				
Present..	Free	Free	The tumor was attached to a pedicle which arose from the left broad ligament.	Cysto-sarcoma of the left broad ligament. Wgt. 12 lbs.	Death on the 13th day of peritonitis which certainly had arisen from an abscess in the neighborhood of the pedicle.	The tumor presented a trembling, soft mass, made up of wide-meshed tissues with fist-sized cavities within. No autopsy or microscopical examination of the tumor was made.
.....	.....	.....	.....	Fibro-myomatous tumor.	.....	Discovery of the tumor, which was from the left broad ligament, during the removal of an eight-sided ovarian cystoma.
None.....	Movable..	Both Present. Sound.	Enucleation.....	Myofibroma cysticum intra-ligamentare. Weight 13 lbs. Prof. Cohnheim confirmed the diagnosis.	After the operation, there was a secondary hæmorrhage which was controlled by compression. Trismus and tetanus on the sixth day, in spite of which patient recovered and left the hospital after six weeks.	The ureter lay bare in enucleating the sessile tumor.
None.....	Free	Both present.	After enucleation of the myoma of the uterus, a tumor of the ligament, the size of a 5 mo. gravid uterus was removed. The peritoneal covering of the tumor was cut so that a continuous suture restored the relations of the parts to those of a normal ligament.	.....	....	The left ureter lay under the side of the tumor.
.....	.....	....	.....	.....	No operation..	....
None.....	Free	Both present.	Sub-peritoneal enucleation. Removal of diseased right ovary.	Fibroid of the right broad ligament. The tumor arose in the outer portion of the ligament beyond the ovary which lay on its inner aspect.	Recovery.....	Peritoneum freely movable over the surface of the tumor.
None.....	Free	Both present, healthy.	Enucleation, partial closure of the peritoneal wound. Drainage by means of a Miculicz drain introduced into the bottom of the unclosed peritoneal wound.	Fibroid of the broad ligament. Weight 4 lbs. The cut surface showed multiple nut-sized and larger fibroids melted down into one large and almost perfectly spherical tumor.	Death from sepsis on the third day.	The omentum adherent to the tumor over a considerable surface contained enormously enlarged blood-vessels (finger-sized) furnishing the principal blood supply of the tumors.
None.....	Free	Not found.....	Transverse incision through the broad ligament and enucleation of the sessile, immovable tumor.	Leiomyoma of the right broad ligament. Wgt. 10 ounces.	Recovery without complication. In perfect condition Nov. 28, 1887.	....

A CASE OF TRAUMATIC CYST OF THE PANCREAS.

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[Reported, with statistics, by A. Holmboe, M. D.]

Chester A. King, æt. 8, was admitted to Emergency Hospital October 6, 1887, with the following history: He had enjoyed good health up to recent illness. Eleven weeks ago he fell from a horse and sustained injury to his abdomen, showing a red spot over the umbilicus, and a similar spot over the processus spinosus of third lumbar vertebra. He complained during first eight weeks of intermittent attacks of pain, located in the region about umbilicus. About three weeks after injury a swelling appeared in epigastrium and has been increasing steadily since. After injury the patient lost appetite; his bowels were loose, irregular, and the fæces of a whitish, curdled appearance, according to his mother's statement. Vomiting had been a prominent symptom during the period from the time of injury until his admission into the hospital. He had been treated for typho-malarial fever.

STATUS PRÆSENS.

Patient is of normal size for his age, but thin and emaciated. Examination shows lungs and heart normal. In the epigastrium and upper half of mesogastrium is a round prominence caused by a tumor 7 inches in transverse diameter, 8 inches in longitudinal diameter. Percussion over the tumor is dull on the right side, continuous with the liver—dullness on the left side, reaching over the border of the ribs. Between the seat of dullness of the tumor and heart-dullness there is a tympanitic area from the ventricle. The circumference of abdomen at the end of xiphoid process, 24 inches; midway between this and the umbilicus, over the most prominent part of the tumor, 25 inches; at the umbilicus 23½ inches. After inflation of the bowel with Richardson's syringe the transverse colon is seen passing along and over the lower border of the tumor. The tumor moves with the respiration. There is transmitted pulsation from the aorta, but no expansion or bruit. Over the surface of the tumor is a feeling of fluctuation. The tumor is slightly movable from side to side.

Exploratory puncture brings out a syringeful of deep straw-colored, not perfectly clear, fluid of alkaline reaction, which contains a small number of red blood-corpuscles, but no other formed elements. The location of the tumor is in the median line behind the stomach, above the transverse colon—that is, in the region of the pancreas. Taken together with the microscopic character of its fluid contents, containing no other formed elements than a few blood-corpuscles, and finally its relation to a distinct trauma, made the diagnosis of a pancreatic cyst rather plausible. It was resolved to operate by laparotomy in two tempos, if the thickness of the cyst-wall would permit of such procedure. October 9, 1887, after the usual preparations for laparotomy, a longitudinal incision was made in the linea alba, about three inches long, midway between the umbilicus and the xiphoid process. After opening the peritoneal cavity the parietal peritoneum was stitched to the skin and the meso-colon transversum or ligamentum gastro-colicum was divided longitudinally and a few small vessels ligated. Beneath this was the glistening white smooth surface of the cyst-wall. This was united by a circular row of fine silk sutures, includ-

ing a space about two inches long and one inch broad, to the abdominal wound. No cyst-fluid escaped along any of the sutures, and consequently the original plan of operating in two tempos was carried out. The wound-cavity was packed with iodoform-gauze, and antiseptic dressing was applied, held in position by an elastic bandage. The following day the temperature rose to 101.5° F., but came down to normal the evening of the same day and remained so. No other untoward symptoms followed this operation.

On October 16, a week after the laparotomy, the patient was again anæsthetized, and the cyst opened by Paquelin's cautery. The cyst-wall was of considerable thickness, almost one-fourth of an inch. About 40 ounces of thin, yellowish, semi-transparent fluid escaped. A large drainage-tube, over one-half inch in diameter and 9 inches long, was introduced to the bottom of the cyst, passing upwards and backwards toward the left side of the vertebral column, behind the stomach. No irrigation was used at the time of the operation, but heavy antiseptic dressing and an elastic bandage were applied.

The following day the temperature rose to 101° F., but became normal the next day and remained so. His bowels were regular before the second operation. After this, however, they did not move for five days, when an enema was given. Later on, the bowels again became regular. There was profuse discharge the first four to five days after the operation, after which time the discharge rapidly decreased in quantity. When leaving the hospital, November 9, the dressing which had been applied four days before was perfectly dry. At no time during the after-treatment was there any erosion or maceration of the skin surrounding the wound, although it was constantly in contact with the secretion from the cyst-wall.

The depth of the fistula at the time of leaving the hospital was three inches. The general condition of the patient was greatly improved.

In an article on Complicated Diseases of the Pancreas and their Surgical Treatment Dr. KARL HAGENBACH, assistant of Professor Socin, in Basel, has collected reports of fifteen cases of true cysts of the pancreas (*Deutsche Zeitschrift für Chirurgie*, December, 1887). Adding to these fifteen cases the reports of three cases operated upon in this country during latter part of 1887 (Bull, Fenger, Steele) we find, altogether, the following eighteen cases of cysts of the pancreas so far reported in literature:

Literature.	Sex and Age.	Cause.	Duration.	Place of Development.	Symptoms.	Complications.	Diagnosis.	Method of operation.	Result.	Cyst-Contents.
1. Gross. Anatomical Museum of Boston Society for Med. Improvement, 1847, p. 174.	M. 40 years.	...	13 years	Head of Pancreas.	Loss of strength, bloody stools, tumor in epigastr.	Icterus				300-400 Grm. serous bloody fluid.
2. Salzer. Zeitschr. f. Heilk., 1886, Bd. vii, p. 11.	F. 42 years.		12 years	Tail of Pancreas.	Growing tumor.	Icterus	Ovarian cystoma			4,500 Grm. thick, slimy, grayish-brown fluid.
3. Bosemann. N. Y. Med. Record, 1882, vol. xxi, p. 46.	F. 41 years.		7 years	Near the tail.	Pain in regio-iliaca, emaciation, swelling of abdomen on left side.		Ovarian cystoma	Extirpation of the pediculated cyst.	Healing in 38 days.	10 l.ters brown fluid.
4. Kulenkampff. Berl. klin. Wochenschr., 1882, 13 Febr., No. 7.	M. 39 years.	Trauma	6 months		Tenderness in epigastrium.		Echinococci of the liver.	Incision (2 tempos), drainage.	Healing in 6 weeks.	1½-2 liters clear fluid.
5. Dixon. N. Y. Med. Record, 1884, vol. xxv, p. 304.	M. 42 years.		11 weeks	Head of Pancreas.	Sudden pain in epigastrium, vomiting.	Icterus		Puncture and aspiration.	Death 5 weeks after operation.	Abt. 300 Grm. light-yellow, slimy fluid,
6. Senn. Journal of the American Med. Association, Sept. 26, and Oct. 3, 1885.	M. 19 years.	Trauma	5 weeks	Tail of Pancreas.	Pain, vomiting, emaciation, tumor.		Cyst of the pancreas.	Incision (1 tempo), drainage.	Healing in 7 weeks.	3-3½ liters slightly opalescent fluid.
7. Salzer. Zeitschr. f. Heilk., 1886, Bd. vii, p. 11.	F. 33 years.		11 years	Tail and body of pancreas.	Backache, vomiting, tumor in epigastrium.		Ovarian cystoma	Extirpation of cyst.	Death 6 days after operation.	5 liters yellowish-brown, clear fluid.
8. Kramer. Centralbl. f. Chir., 1886, p. 23.	F. 16 years		Several weeks		Abdominal pain, tumor in epigastrium.		Echinococci of the liver.	Incision (1 tempo), drainage.	Healing in 4 months.	2 liters clear fluid.
9. Koetz. Guration ein Pankreascyste, Inaug. Diss. Marburg, 1886.	F. 36 years.		3 years	Tail	Enlargement of abdomen		Ovarian cystoma	Partial excision.	Death in 7 weeks.	2½ liters brown, thick fluid.
10. Kuester. Deutsche medic. Wochenshr., 1887, No. 10, p. 189.	M. 46 years.		6 months		Periodical gastric pains, loss of weight, tumor under right costal arch.		Cyst of the pancreas	Incision, tamponing, drainage.	Healing in 6 weeks.	2½ liters clear yellowish fluid.
11. Subotik. Allgem. Wiener medic. Zeitung, 1887, Bd. 32, p. 279.	M. 20 years.		3 years		Colic-like pains, vomiting, tumor in epigastrium.		Cyst of the pancreas	Incision (2 tempos), drainage.	Healing	2 liters turbid brownish fluid.
12. Riedel. v. Langenbeck's Archiv. f. klin. Chir., 1885, Bd. xxxii, p. 994.	F. 45 years.		9 years	Tail and body of pancreas.	Tumor in epigastrium		Ovarian cystoma	Extirpation of the cyst.	Death 96 hours after operation.	10 liters brownish fluid.
13. Zukowsky. Wiener medic. Presse, 1881, No. 45.	F. 36 years.		2½ years	Tail	Tumor in epigastrium		Ovarian cystoma	Partial excision.	Death 10th day.	5 liters brownish fluid, albumen, cholesterine.
14. Thiersch. Berl. klin. Wochenschr., 1881, Bd. xvii, No. 40, p. 591.	M. 38 years.		1 year	Tail	Took suddenly sick, tumor in region of the stomach.		Abscess of abdom. wall	Incision (2 tempos).		3 liters chocolate-colored fluid.
15. Gussenbauer. v. Langenbeck's Archiv. f. klin. Chir., 1883, Bd. xxix, p. 355.	M. 40 years.		11 weeks		Took suddenly sick with vomiting and gastric pain; emaciation, epigastric tumor.		Cyst of pancreas	Incision (1 tempo), drainage.	Healing in 12 weeks.	1,900 grm. grayish-black fluid.
16. Bull. N. Y. Medical Journal, 1887, Oct. 1, p. 376.	M. 45 years.		10 months	Tail (?)	Sudden pain, vomiting, dyspnœa, loss of appetite, emaciation, stearrhœa.	Icterus, diabetes.	Cyst of the pancreas	Incision (2 tempos), drainage.	Recovery. (Death later from diabetes.)	118 oz. Dark brown fluid.
17. Fenger	M. 8 years.	Trauma	11 weeks	Tail	Pain in epigastr., vomiting, loss of appetite, emaciation, tumor in epigastr. region.		Cyst of the pancreas	Incision (2 tempos), drainage.	Healing in 2 months.	40 oz. Straw-colored fluid.
18. * Steele.	M.			Tail.	Tumor in epigastrium.		Cyst of the pancreas		Recovery.	

* This case is not yet reported, which accounts for my meagre information concerning it.

From the above tabulated cases the following résumé may be drawn:*

There were eleven males and seven females.

Age from eight years (Fenger) to forty-six years (Küster).

Trauma was given as the cause in three cases (Kulenkampff, Senn, Fenger).

Duration from five weeks (Senn) to thirteen years (Gross). In Kramer's case the time has been indefinitely given as "some weeks."

Place of development is not stated in five cases; in two cases the head is given as the seat of origin; in eleven cases the tail.

As to symptoms, a certain suddenness of onset is noticeable in a number of the cases; otherwise, common gastric and intestinal disturbances seem to be most prominent. Location, relations, etc., of tumor has only in a limited number of cases been sufficiently characteristic to warrant a diagnosis of pancreatic cyst (Senn, Küster, Subotik, Gussenbauer, Bull, Fenger, Steele).

Icterus is mentioned as a complication in four cases.

Diabetes in one case (Bull).

Sixteen cases were operated, of which ten recovered and five died.

Methods of operating† are distributed with the respective results as follows:

Extirpation of the whole cyst: three cases with two deaths and one recovery.

Partial excision of cyst-wall, uniting the remainder with the abdominal wound: two cases with two deaths.

Puncture and aspiration: one case with one death.

Incision and drainage in one tempo: four cases with four recoveries.

Incision and drainage in two tempos: five cases with* five recoveries.

From the above figures it seems reasonable to conclude, as Dr. Senn stated in his monograph of 1885, that the operation to be recommended for cysts of the pancreas should be incision and drainage, and it seems to be a matter of little or no importance whether this operation is performed in one or two tempos.

Careful chemical analysis of the cyst-content has been made in several cases, showing the presence of tyrosin, leucin, mucin, serum-albumen, sodium, and potassium salts etc. The cyst-fluid has also proved itself able to digest starch, emulsify fat, etc., and thereby established its pancreatic origin. In Gussenbauer's and Senn's cases a digestion eczema was noticed around the abdominal wound. The quantity of the cyst-fluid varies from a pint up to several quarts. Blood in varying quantity is frequently found in these cysts. Küster considers the presence of blood characteristic, even for pancreatic cysts, when found in a cyst of the upper abdominal region (Hagenbach). In Thiersch's and Gussenbauer's cases, blood was prevalent to such an extent that Hagenbach considers it doubtful whether these two cases can, properly, be classed under retention-cysts, believing it possibly more correct to place them among hæmatomas. Senn, however, thinks it safe to classify them as hæmorrhagic retention-cysts.

* For further details, see original reports.

† Method of operating employed in Dr. Steele's case was incision and drainage; but if in one or two steps, I do not know. Recovery.

* Bull's case was operated July 19, discharged cured November 19, but died two week's later from diabetes.

327 North Wells Street.

ILLINOIS STATE BOARD OF HEALTH.

ANNUAL MEETING, SPRINGFIELD, JANUARY 12–13, 1888.

The Eleventh Annual Meeting of the Illinois State Board of Health was held in Springfield on January 12 and 13, 1888. The Secretary presented the Quarterly Report and Annual Summary. In it he said, that in view of the very general interest which had been aroused throughout the country by the recent occurrences at the New York quarantine and the recent apparent danger of an immediate invasion of Asiatic cholera through Italian immigrants, it seemed proper to give that subject precedence in the Quarterly Report. A history of the introduction of the contagion into New York Harbor in the fall of 1887, and of the action of this Board in the premises, was given.

From this it seemed evident that the Board shares the general belief that sufficient care was not taken at the quarantine of New York regarding infected vessels (the Alesia and the Britannia), which arrived at that port during the autumn of 1887.

In this report the Secretary says, regarding public health and the immigrant: These occurrences and the correspondence thereon very opportunely illustrate and emphasize the position I have held and the views I have promulgated upon the subject of quarantine for many years. Illinois, through the authority vested in its State Board of Health, may be protected against the consequences of the lapses and defects of the coast quarantines; but at a wholly unjustifiable expense and a regrettable but necessary interference with transportation interests. No interior State should be compelled, in order to protect the health and lives of its citizens against foreign pestilence, imported through the seaboard cities, to maintain a State line quarantine, to inspect the passengers on railways from such cities, and otherwise to do, at great disadvantage and under very unfavorable conditions, what might much more readily, cheaply, and efficiently be done at the port of arrival. The Illinois State Board of Health has exercised its quarantine power only as a last recourse; and, when this exercise has been unavoidble, every effort has been made to adjust its inspections and other agencies so as to conflict as little as possible with the interests of commerce and travel. On the other hand, the railroad managements have always responded to the Board in the most amicable spirit, with an intelligent appreciation of the necessities of the situation and a ready extension of every facility in their power in order to accomplish the desired result with as little friction as possible.

But the question naturally arises: Why should the State of Illinois be put to this expense, and with what justice can her transportation agencies be subjected to this burden? It is not her own protection alone that is thus assured, but the protection of the vast region beyond her borders—northwest, west, and southwest—to which the great tide of immigration flows. Of the thousands of immigrants who enter the State annually—mainly through Chicago as the great distributing point—only a small portion remain as permanent settlers; but the diseases, contagious and infectious, as well as the moral, social, and mental wrecks of the whole number, are inflicted upon us in vast disproportion.

This consideration, however, is swallowed up in the larger view of the interests of the whole country, and the duty of the National Government to protect its borders from the invasion of foreign pestilence. And with regard to Asiatic cholera—what-

ever may be true of small-pox, scarlet fever, or other contagious diseases—the events of the past few months only corroborate my conclusions; they have not modified, reversed, or added thereto. I repeat what I have so often said before, as a practical sanitarian accustomed to deal with conditions as they actually exist, to wit: That the only wise thing to do in respect of cholera is to resist the first beginnings. This country can be protected against the disease only by its absolute exclusion. The arguments against quarantine which may be valid enough for Great Britain do not apply here. The conditions which obtain are widely different. There is no great immigration movement into that country such as complicates the social, political, and sanitary problems of this country. The only large bodies of people arriving in England after a long voyage are those on the troopships; but these are constantly under medical and sanitary surveillance, and the necessary measures may be enforced under the direct control of government.

The vast hordes of immigrants constantly arriving in this country present a sharp contrast in every respect. The voyage across the Atlantic is long enough to increase the susceptibility to contagious diseases under the conditions which obtain in the steerage; the sanitary supervision is defective; reports of the ship's officers are untrustworthy, as is again shown in the case of the Britannia; and the methods of the immigrant carriers—whose object is to land the immigrant at his ultimate destination with as little delay as possible—are such as to greatly imperil the interior.

The immigrant and his effects are hurried through the port of arrival, and the first intimation of danger to an interior community is too often the outbreak of a virulent contagion. I have shown this to be true with respect to small-pox, in my paper entitled "Immigrant Introduction of Small-Pox into the United States." (See Fifth Annual Report of the Illinois State Board of Health, pp 329–342. Also report of the National Board of Health, 1882.) During a period of nearly a third of a century I have traced the reappearance of small-pox in Chicago in every instance to first cases directly introduced by immigrants; and the first great small-pox epidemic—that of 1880–83—I have shown to be due to the same cause in ten different States and in over two hundred different instances.

The familiar citation of the epidemic outbreaks of cholera in 1873 in Ohio, Minnesota and Dakota—caused by the unpacking of the infected household goods, clothing, etc., of immigrants—might be supplemented by similar instances which came under my own observation during that year, while Sanitary Superintendent of Chicago. The first cases in that city were in three different families, who had received immigrants from Europe direct through the port of New York. (There was no cholera in New York City in 1873.) Members of these families were attacked by the disease within a short time after the arrival of these persons. The fact that the immigrants themselves escaped, threw the search for the origin of the cases into other directions; and I vainly sought to establish a connection between these outbreaks and the places then infected on the Mississippi River. It was not until after such connection was positively disproved that the right clue was discovered as above mentioned.

In view of the subsequent developments in the case of the Alesia and Britannia it can only be ascribed to great good fortune that the country escaped a similar result from her immigrant passengers. The number of cases which occurred after these were taken in charge by the quarantine authorities and the prolonged duration of the outbreak are conclusive proof that they were infected, not only in person but in belongings. If there had not been cases of the disease actually on board when the vessel arrived these infected belongings—baggage, dunnage, household effects, etc., packed up in the cholera districts of Italy

—would have been passed through the port and rapidly carried into the interior, there to liberate the cholera poison whenever the goods were opened, as was the case in 1873 at Carthage, Ohio, in Kandiyohi County, Minnesota, at Yankton, Dakota, and in the city of Chicago.

While this demonstrates the necessity for the thorough disinfection of all this class of articles coming from any country infected with such a transportable contagion, the cases of cholera which continued to occur among the steerage passengers of the Alesia and Britannia so long after arrival equally demonstrate the necessity for detaining such passengers during the recognized period of incubation of the disease. Given the existence of cholera in Europe, experience shows the impossibility of determining when or how the immigrant passengers may become exposed to infection during a voyage.

The terrible epidemic of 1848–50, which swept over the continent from the Atlantic to the Pacific, is attributed to the arrival at New Orleans in December, 1848, of the emigrant ship Swanton. This vessel cleared from the port of Havre on the 31st of October; and nine days later the New York—another emigrant ship—cleared from the same port for the port of New York. Havre was at the time declared free from cholera, and both vessels cleared with clean bills of health. According to Hirsch cholera did not invade France until the first months of the following year, when it first showed itself in the seaports along the northern coast. The steerage passengers on these vessels, however, were mostly emigrants from Germany, into which country—according to the same authority—cholera was brought from Russia in the early summer of 1848.

On the 24th of November, being then fifteen days out from Havre with all well on board, the New York, in north latitude 42° off the United States coast, encountered a very cold wind which, in the language of the captain, caused "a general overhauling of baggage for warm clothing." Twenty-four hours later the Swanton, a thousand miles south of the New York (in latitude 25° 47′) was "visited by a very hot south-east wind; such a one," says her captain, "as I had never felt before." Cholera broke out on the New York November 25, and on the Swanton November 26. The former vessel arrived in New York Bay December 2, having lost fourteen of her passengers, and the latter reached New Orleans December 11, having had thirteen deaths.

There is no escape from the conclusion arrived at by Dr. Alonzo Clark, after a critical consideration of the various theories advanced to account for the outbreaks on these vessels: "It seems to me far more probable that the poison was lurking in the baggage of these passengers, and that the emergencies which required the opening of unventilated trunks and packages, let loose in each of these ships that poison brought from the infected regions of Germany."

Had this unpacking of baggage occurred later in the voyage the vessels might have arrived without any suspicion of infection; and under the present system of local maritime quarantines, they would at most have been detained only long enough to disinfect the vessel, baggage, etc. Manifestly, since it is impossible to disinfect the individual, who may already have received the seeds of contagion into his system, the only security for the country is in the detention —*for the full period of incubation* after arrival—of all European immigrants so long as Asiatic cholera continues to exist in any part of Europe.

PROHIBITION OF IMMIGRATION.

The alternative to these precautions is in the prohibition of all immigration from cholera infected districts during the existence of a cholera epidemic. This might be done by giving the President authority to issue a proclamation to such effect, as I have already suggested in my address be-

fore the National Conference of State Boards of Health in 1884.

The occurrences of the past few months fully confirm all that I have hitherto said upon this subject. Maritime quarantine can be efficiently administered only by the National Government, and its cost should be defrayed from the national treasury, since it is a measure of sanitary defense for the whole country against the invasion of foreign pestilence. A short cut to the same result may be had by shutting out the immigrant himself, and with him all the other ills which the steerage, like a veritable Pandora's box, has let loose upon this country. As I have elsewhere said: It is the steerage of the immigrant vessel, with the poverty, squalor, and uncleanliness of too many of its denizens, with its crowd-poison and other conditions favorable to the development of the specific contagions, which we, as sanitarians at least, have to fear and guard against.

If Congress can be induced to give the subject the consideration which its importance to the well-being of the Republic demands, it would be well to inquire into the feasibility of restricting the entrance of immigrants to those ports only which may be provided with proper facilities for their inspection, detention when necessary, and other treatment adequate to effectually prevent their carrying contagion into the country either by themselves or their belongings. And in this connection it seems proper to observe, in view of recent developments, that the language employed in my "Report of an Inspection of the Atlantic and Gulf Quarantines," with reference to the quarantines at New York and at New Orleans, was well considered. I then, in the fall of 1885, wrote: The quarantine plant and facilities at the port of New York are unrivaled, etc. That the "plant" has not been maintained in the condition it was when first constructed, and that the "facilities" have not been utilized, do not surprise those familiar with the situation. The result witnessed in the fall of 1887 is foreshadowed in the concluding paragraph of my report on this station: "New York *may* exclude cholera under her present system; but more confidence would be reposed in the result if less were demanded of professional ability, personal integrity, and executive firmness in the health officer, and if the system were freed from influences which are most deprecated by those who, without prejudice, best understand them." In short, the sanitary efficiency of the New York quarantine has been interfered with to a serious extent by political influences.

With regard to New Orleans, I still indorse the claim made that it "is the most thorough and vigorous system of sanitary quarantine which has ever been enforced for the protection of a port from the introduction of foreign contagion." But from what has been already said in the preceding it is obvious that I do not believe that any amount of sanitation—of disinfection, cleansing, etc.—will suffice to exclude such a capricious disease as cholera. There is absolutely no safety for this country in allowing immigrants from Europe—so long as cholera exists anywhere on that continent—to land on our shores until having complied with the following conditions:

First. The vessel to be taken charge of by the quarantine authorities immediately on arrival, and released only after she is put in a perfect sanitary condition.

Second. The thorough cleansing and disinfection of all personal belongings of passengers, officers, and crew—*coupled with a detention of observation long enough to cover the recognized period of incubation of the disease after arrival.*

Fortunately there have been, as yet, no cases of cholera developed among or from the immigrants allowed to land and travel into the interior from these various vessels, and it is probable that whatever danger there may have been from these is now past. Occasional cases of cholera still occur in southern Europe, and experience, both remote and recent, forbids a positive conclusion that the epidemic has run its course in

that country; while we know that it has again reappeared in Chili, and is now raging at Santiago, and its extent in South America can only be conjectured.

WATER SUPPLIES AND THE POLLUTION OF STREAMS.

Turning from this consideration of the subject to our own duty as a State Board of Health, the occurrences above dwelt upon fully justify all the efforts made during the past four years to perfect the sanitary condition of the State, and emphasize the necessity for their further continuance. The results of the unparalleled drought of the past year demonstrate the importance of a vigorous prosecution of the investigation into the sources of and remedy for the pollution of streams and the character of the water supply, not only of cities, towns, and villages, but of the country generally throughout the State. Coupled with the chemical and biological examination of water supplies, it is designed to utilize the data obtainable by collecting the various borings made in many parts of the State for coal, artesian wells, gas, etc. These should indicate the character, extent, and availability of our sub-surface water supply, and the results of the study and research, while being directly in the line of sanitary interests, will be profitable from an economic standpoint. Only less important than the prevention of disease, and premature death thereby, would be the knowledge which should enable the farmers, stock-raisers, and others to remedy, as far as possible, the results of prolonged dry weather, and to supplement the ordinary sources of supply from the underground reservoirs.

Illinois, though suffering, has, fortunately, been spared the widespread diseases which have been caused by drought during the past year in neighboring States, but the mode of cholera propagation and the extent and severity of a cholera epidemic depending so largely upon the character of the water supply, we cannot rest satisfied until every community in the State is assured of the best attainable condition of this great sanitary necessity. Wherever typhoid fever spreads beyond sporadic cases, and wherever diarrhœa and dysentery are usually prevalent, it is safe to assume that Asiatic cholera may become epidemic if the specific contagion be introduced, and it will be wise to remedy the conditions which cause such spread and prevalence before the graver disease shall get a foothold.

SANITARY SURVEYS.

In addition to prosecuting this work during the coming season, the general sanitary labors, which have been on the whole satisfactorily pursued during the past year, will need to be stimulated and encouraged during 1888. Sanitary surveys of places, where these have not yet been undertaken, and revision and utilization of those already made, are among the most useful agencies which the Board has yet devised for promoting general sanitation.

During the past year the surveys of Alton, Anna, Belleville, Beardstown, Carlinville, Collinsville, Freeburg, Mt. Vernon, Ottawa, Rockford, Rock Island, Springfield, Streator, Tuscola, and Urbana have been completed, and are now in possession of the Board awaiting publication. The data contained in these surveys are not confined to sanitary matters alone, but there is much information pertaining to every locality which has never before been collected, and is nowhere else accessible. There is a marked improvement in the completeness and thoroughness of the work done during the past year in this direction. This is, no doubt, largely due to the publication of the sanitary surveys in the eighth annual report of the Board. These have obviously been studied and profited by, and it is a source of regret that the publication of the ninth annual report —the matter for which has been for some time ready for the printer –has been so long delayed through the complications in the public printing.

HEALTH OF THE STATE.

Localized outbreaks of diphtheria and scarlet fever have been reported from a number of places during the closing quarter of 1887, but with no special tendency to epidemic spread. Want of proper and efficient municipal sanitary organization has prolonged the existence of the former disease in Belleville and of the latter in Quincy. Diphtheria is reported at Beardstown, Belleville, Blair, Edwardsville, Elmhurst, Nokomis, Rockford, Sadorus, and near Sparta; scarlet fever at Chester, Mount Sterling, Nokomis, Quincy, Rockford, Sannemin, and Sparta; typhoid fever and "milk sickness" near Nokomis and neighborhood of Potomac, and a group of cases of typho-malarial fever at Downs.

A case of small-pox developed in the person of a railroad conductor on his return to Clinton (DeWitt County), from an excursion into Mexico, where he undoubtedly contracted the disease. A case of varioloid has also occurred at Decatur. The source of the contagion in this latter case has not yet been determined. The usual precautions prescribed in the preventable-disease circular of the Board have been enforced at these places, and the local authorities do not anticipate any spread of the contagion at Decatur. The conductor at Clinton is convalescent, but his three children have contracted the disease. Every effort is being made to confine the disease to this one family.

Another edition of the circular on scarlet fever, with some few revisions, has been prepared during the quarter and is now ready for distribution.

MEDICAL-PRACTICE ACT.

There were issued during the quarter ninety-four certificates authorizing the practice of medicine in the State—sixty-six to graduates upon diplomas from medical colleges in good standing; twenty-four to non-graduates upon proof of ten or more years' practice in the State prior to July 1, 1887, and four duplicates upon proof of the destruction of the originals. This number is larger than usual in the last quarter of the year, the increase being due to the operation of the revised act by which those formerly exempt are now required to take out certificates.

Certificates were also issued to twenty midwives—ten upon diplomas or licenses; two upon examination; seven upon years of practice, and one duplicate.

During the year four hundred and eighty-five original and thirteen duplicate certificates authorizing the practice of medicine were issued. Diplomas presented by thirty-one graduates of seven different colleges were required to be supplemented by examinations of the applicants on branches or subjects omitted by the respective schools; and in six similar cases the applicants declined to appear for examination and left the State. In addition to these, sixty-nine applications were refused owing to the inability of the applicants to comply with the terms of the medical-practice act, or the rules of the Board based thereon.

Of the total four hundred and eighty-five original certificates issued, four hundred and thirty-four were to graduates of medical colleges; forty-four to practitioners of ten or more years' practice prior to July 1, 1877, and seven to candidates upon examination. The certificate of one practitioner was revoked for "unprofessional and dishonorable" conduct.

To midwives during the year ninety-five original certificates were issued—thirty-six being to licentiates; thirty-six upon examination, and twenty-three upon years of practice in this State. Seventeen applications were refused, mainly because of failure to pass the prescribed examination.

MEDICAL EDUCATION.

In order to remedy, as far as possible, the effects of the delay in the public printing—the cause of which has been already referred to—the following summary and tables are submitted from the report on medical education, which has formed a

feature in the annual reports of the Board for several years past. The matter for this report, which has involved a great amount of labor, is ready for the printer, and as the value of its information would be materially impaired by further delay it is deemed proper to make it public, to this extent at least, in the abstract here presented.

In brief, the data collected indicate a continued improvement in the methods and a still further heightening of the standard of medical education in this country—a marked and steady impetus to which, it may be fairly claimed, has been given by the Illinois State Board of Health in its practical enforcement of a schedule of minimum requirements for medical colleges, conformity with which is necessary to ensure recognition as in "good standing" for the purposes of the medical-practice act; also the annual publication of this report, the work of other boards, and the agitation of the profession in the same direction.

The text of the Report on Medical Education for 1887 contains the data of historical interest pertaining to 258 institutions, dating back to 1765; the last report contained such data for 253 institutions. It contains, also, all necessary information as to the title, location, addresses of corresponding officers, faculty, curriculum of study, length and dates of sessions, requirements for matriculation and for graduation, fees, number of matriculates and of graduates at each session since 1877—and other facts of interest concerning the 129 medical colleges now in existence. It also embraces the statistics of a total of 116,529 medical students, classified by schools of practice, by States, by individual colleges, and by sessions, for each year during the period 1877-78 to 1886-87 inclusive.

The changes noted by a comparison with the report of 1886 show a net gain of two regular schools and a loss of two eclectic schools; while the others remain unchanged. As compared with the conditions which existed prior to the enforcement of the schedule of minimum requirements—that is, prior to the session of 1883-84—the report shows that there are now 114 colleges which exact an educational requirement of intending matriculates, as against 45 formerly—there being no change in this respect from the previous year; that 43 colleges now exact attendance upon three or more courses of lectures as against 22 formerly—being a gain of two over 1886—and 57 others make provision for a three or four years' graded course; that hygiene is now taught in 114, and medical jurisprudence in 112 colleges, as against 42 and 61 respectively, prior to 1883. There is an increase in the average of lecture-terms from 23.5 weeks to 24.9 weeks during this period, and 114 colleges now have terms of five months or over, and 63 have terms of six months or over as compared with 101 and 42 respectively. There is only one medical college that has a course less than twenty weeks—the Medical College of Georgia.

The effect of this improvement in methods of instruction and of the higher qualifications demanded before graduating the student is best seen in the diminishing percentage of graduates to matriculates. The tables embraced in the report now cover a sufficiently long period—from 1877 to 1887 inclusive—and deal with large enough numbers—116,529 matriculates and 37,493 graduates—to give them a positive value for this purpose. Errors arising from unusual or accidental conditions are largely canceled or diminished in importance in these aggregates, and the inferences drawn may be accepted as fairly trustworthy.

The first fact of importance which arrests the attention in this comparison is that, notwithstanding the growth of population, the total number of medical students has never yet reached the proportions attained in 1882-83. The sessions of that winter were attended by 13,088 students; of 1883-84 by 12,763 students; of 1884-85 by 11,975 students; of 1885-86 by 12,321 students, and of 1886-87 by 12,948 students.

Although there was a gain last year of 627 students over the attendance in 1885-86, the aggregate in 1886-87 was still 140 less than in 1882-83.

The effect of a higher standard of qualifications for graduation is further shown in the diminishing percentage of graduates to the total number of students. In 1882-83 out of every 1,000 matriculates 322 were graduated, taking both the United States and Canada and all schools of practice into the account. In 1886-87 only 294 out of every 1,000 matriculates were graduated. In the United States alone in 1882-83 out of every 1,000 matriculates 331 were graduated, while in 1886-87 only 305 out of every 1,000 matriculates were graduated.

The subjoined summary and tables will enable a further study of this subject to be made.

SUMMARY OF MEDICAL INSTITUTIONS AND STUDENTS IN THE UNITED STATES AND CANADA, 1877—1887, INCLUSIVE.

Institutions.	Regular.	Homeo.	Eclectic.	Ph. Med.	Miscell.	Fraud't.	Totals.
Total number of Medical Institutions embraced in this Report (*a*)	174	25	34	8	4	13	258
In the United States	158	25	34	8	4	13	242
In Canada	16	.....	.....	.....	.....	.....	16
Total number of Colleges now in existence (*b*)	105	13	8	3	.....	.....	129
In the United States	93	13	8	3	.....	.....	117
In Canada	12	.....	.....	.....	.....	.....	12
Total number of Institutions now extinct	70	12	26	5	3	13	129
In the United States	66	12	26	5	3	13	125
In Canada	4	.....	.....	.....	.....	.....	4
Total number of Colleges which now exact educational qualifications as a condition of matriculation (*c*)	90	13	8	3	.....	.....	114
Which formerly exacted such qualifications (*c*)	41	4	.....	.....	.....	.....	45
Total number of Colleges requiring attendance on three or more courses of lectures (*c*)	37	5	1	.....	.....	.....	43
Which formerly required such attendance (*c*)	21	1	.....	.....	.....	.....	22
Total number of Colleges which now recommend but do not exact three or more courses (*c*)	45	7	4	1	.....	.....	57
Which formerly made such recommendation (*c*)	43	7	2	1	.....	.....	53
Total number of Colleges which now have chairs of hygiene (*c*)	91	13	8	2	.....	.....	114
Which formerly taught this branch (*c*)	32	7	3	.....	.....	.....	42
Total number of Colleges which now have chairs of medical jurisprudence (*c*)	88	13	8	3	.....	.....	112
Which formerly taught this branch (*c*)	49	8	4	.....	.....	.....	61
Total number of Colleges which require a thesis	30	3	4	.....	.....	.....	37
Total number of Colleges for women only	7	1	.....	.....	.....	.....	8
In the United States	5	1	.....	.....	.....	.....	6
In Canada	2	.....	.....	.....	.....	.....	2
Total number of Colleges for both sexes	20	8	9	2	1	.....	40
Total number of Colleges for colored students only	2	.....	.....	.....	.....	.....	2
For both white and colored students	1	.....	.....	.....	.....	.....	1

Notes.—(*a*) "Total number of Institutions," includes seven (7) examining and licensing bodies which do not give instruction; and three (3) schools which do not confer degrees.

(*b*) Does not include those specified in note *a*.

(*c*) "Now" and "formerly" have reference respectively to the periods before and since the enforcement of the Schedule of Minimum Requirements, namely, the close of the sessions of 1882-1883.

LIST OF COLLEGES IN THE UNITED STATES AND CANADA NOW IN EXISTENCE, BY STATES.

1. Medical College of Alabama, Mobile.
2. *Medical Department Arkansas Industrial University, Little Rock.
3. Cooper Medical College, San Francisco.
4. Medical Department, University of California, San Francisco.
5. California Medical College, San Francisco.
6. Hahnemann Medical College of San Francisco.
7. College of Medicine, University of Southern California, Los Angeles,
8. Toronto University, Medical Faculty, Toronto.
9. Royal College of Physicians and Surgeons, Kingston.
10. Medical Department, Weston University, London.
11. Woman's Medical College, Toronto.
12. Kingston Women's Medical College, Kingston.
13. McGill University, Faculty of Medicine, Montreal.
14. École de Medicine et de Chirurgie, Montreal.
15. Laval University, Medical Departments, Quebec and Montreal.

16. University of Bishop's College, Faculty of Medicine, Montreal.
17. Halifax Medical College, Halifax.
18. Dalhousie University, Faculty of Medicine, Halifax.
19. Manitoba Medical College, Winnipeg.
20. University of Denver, Medical Department, Denver.
21. Medical Department, University of Colorado, Boulder.
22. Gross Medical College, Denver.
23. Medical Department, Yale College, New Haven.
24. National Medical College, Washington.
25. University of Georgetown, Medical Department, Washington.
26. Howard University, Medical Department, Washington.
27. Medical Department, National University, Washington.
28. Medical College of Georgia, Augusta.
29. Atlanta Medical College, Atlanta.
30. Georgia College of Eclectic Medicine and Surgery, Atlanta.
31. Southern Medical College, Atlanta.
32. Rush Medical College, Chicago.
33. Chicago Medical College, Chicago.
34. Hahnemann Medical College and Hospital, Chicago
35. Bennett College of Eclectic Medicine and Surgery, Chicago.
36. Woman's Medical College of Chicago.
37. Chicago Homœpathic Medical College, Chicago.
38. College of Physicians and Surgeons, of Chicago.
39. Quincy College of Medicine, Quincy.
40. Physio-Medical Institute, Chicago.
41. Physio-Medical College of Indiana, Indianapolis.
42. Medical College of Indiana, Indianapolis.
43. Central College of Physicians and Surgeons, Indianapolis.
44. Fort Wayne College of Medicine, Fort Wayne.
45. Indiana Eclectic Medical College, Indianapolis.
46. Curtis Physio-Medical Institute, Marion.
47. College of Physicians and Surgeons, Keokuk.
48. Medical Department, State University of Iowa, Iowa City.
49. Homœpathic Medical Department, State University of Iowa, Iowa City.
50. Iowa College of Physicians and Surgeons, Des Moines.
51. University of Kansas, Medical Department, Lawrence.
52. University of Louisville, Medical Department, Louisville.
53. Kentucky School of Medicine, Louisville.
54. Louisville Medical College, Louisville.
55. Hospital College of Medicine, Louisville.
56. Medical Department, Tulane University of Louisiana, New Orleans.
57. Medical School of Maine, at Bowdoin College, Brunswick.
58. *Portland School for Medical Instruction, Portland.
59. University of Maryland, School of Medicine, Baltimore.
60. College of Physicians and Surgeons, Baltimore.
61. Baltimore Medical College, Baltimore.
62. Woman's Medical College, of Baltimore.
63. Baltimore University, School of Medicine, Baltimore.
64. Harvard University, Medical School, Boston.
65. Boston University, School of Medicine, Boston.
66. College of Physicians and Surgeons, Boston.
67. Department of Medicine and Surgery, University of Michigan, Ann Arbor.
68. Homœpathic Medical College, University of Michigan, Ann Arbor.
69. Detroit College of Medicine, Detroit.
70. Minnesota Hospital College, Minneapolis.
71. Minneapolis College of Physicians and Surgeons, Minneapolis.
72. St. Paul Medical College, St. Paul.
73. Minnesota Homœpathic Medical College, Minneapolis.
74. Missouri Medical College, St. Louis.
75. St. Louis Medical College, St. Louis.
76. Medical Department, University of the State of Missouri, No. 1, Columbia.
77. Homœpathic Medical College of Missouri, St. Louis.
78. Kansas City Medical College, Kansas City.
79. St. Louis College of Physicians and Surgeons, St. Louis.
80. American Medical College, St. Louis.
81. Northwestern Medical College, of St. Joseph.
82. University of Kansas City, Medical Department, Kansas City.
83. St. Joseph Medical College, St. Joseph.
84. Beaumont Hospital Medical College, St. Louis.
85. Omaha Medical College, Omaha.
86. Dartmouth Medical College, Hanover.
87. College of Physicians and Surgeons in the City of New York.
88. Albany Medical College, Albany.
89. University of the City of New York, Medical Department, New York.
90. Medical Department, University of Buffalo.
91. Long Island College Hospital, Brooklyn.
92. New York Homœpathic Medical College, New York.
93. Bellevue Hospital Medical College, New York.
94. New York Medical College and Hospital for Women, New York.

95. Eclectic Medical College of the City of New York.
96. Woman's Medical College of the New York Infirmary, New York.
97. College of Medicine of Syracuse University, Syracuse.
98. Medical Department of Niagara University, Buffalo.
99. Leonard Medical School, Raleigh, N. C.
100. Medical College of Ohio, Cincinnati.
101. Western Reserve University, Medical Department, Cleveland.
102. Eclectic Medical Institute, Cincinnati.
103. Starling Medical College, Columbus.
104. Homœpathic Hospital College, Cleveland.
105. Cincinnati College of Medicine and Surgery, Cincinnati.
106. Miami Medical College, Cincinnati.
107. Medical Department, University of Wooster, Cleveland.
108. Pulte Medical College, Cincinnati.
109. Columbus Medical College, Columbus.
110. American Eclectic Medical College, Cincinnati.
111. Toledo Medical College, Toledo.
112. Northwestern Ohio Medical College, Toledo.
113. Woman's Medical College, of Cincinnati.
114. Medical Department, Willamette University, Portland, Oregon.
115. Medical Department, Oregon State University, Portland.
116. University of Pennsylvania, Department of Medicine, Philadelphia.
117. Jefferson Medical College, Philadelphia.
118. Hahnemann Medical College and Hospital, Philadelphia.
119. Woman's Medical College of Pennsylvania, Philadelphia.
120. Medico-Chirurgical College, of Philadelphia.
121. Western Pennsylvania Medical College, Pittsburgh.
122. Medical College of the State of South Carolina, Charleston.
123. Medical Departments of the University of Nashville and Vanderbilt University, Nashville.
124. Medical Department, University of Tennessee, Nashville.
125. Meharry Medical Department of Central Tennessee College, Nashville.
126. Memphis Hospital and Medical College, Memphis.
127. Medical Department of the University of Vermont, Burlington.
128. University of Virginia, Medical Department, Charlottesville.
129. Medical College of Virginia, Richmond.

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*Teaching Schools. Do not grant degrees.

LIST OF EXAMINING AND LICENSING BODIES.

1. Medical Association of the State of Alabama.
2. Illinois State Board of Health.
3. Iowa State Board of Medical Examiners.
4. Minnesota Medical Examining Board.
5. Mississippi State Medical Association, Board of Censors.
6. Board of Medical Examiners of North Carolina.
7. Medical Examining Board of Virginia.

The Board met pursuant to adjournment. Dr. W. A. Haskell was re-appointed by Governor Oglesby as a member of the Board, and as his own successor.

At the annual election of officers for the ensuing year, Dr. W. A. Haskell was re-elected President, and Dr. John H. Rauch was re-elected Secretary.

After the transaction of some further routine business, the Board adjourned.

BALTIMORE GYNÆCOLOGICAL AND OBSTETRICAL SOCIETY.

A CASE OF TETANOID CONSTRICTION OF THE UTERUS.

H. M. WILSON, M. D., said: Four years since, I was first consulted by Mrs. J., a lady of about 24 years of age, just married. She was of fine physique and healthy appearance. Her trouble at that time was uterine neuralgia. Several years before she had had stricture of the bowel, requiring surgical assistance. Nothing of special note occurred during the two years following, except a small subcutaneous abcess in the right iliac fossa, which was lanced, and soon healed. This reappeared in a smaller form — about the size of an almond — two months since. At the end of three years she became pregnant. Her gestation was accomplished without special distress, except on several occasions after moderate exercise she had slight attacks of syncope — the last, about four days prior to her confinement. Five days before labor, whilst in bed and without any exertion on her part, her water was discharged. I was called to see her at 6 o'clock in the morning, and found her bright and cheery, free of headache, with pains, described as sharp, at intervals of about ten minutes. Upon examination the soft parts were found to be in much better condition than had been feared. Bowels twice moved, kidneys acting freely. The os was entirely closed. Upon my return in two hours the os had opened to the size of a dime, edges soft and thin, and the head presented in the right occipito-anterior plane. From this time I remained with her. Quinine was ordered, to assist in relaxation. My patient now commenced to complain of nausea, to the extent of emesis, which was frequently, but not inordinately, repeated. The further progress was slow, but not requiring, in my judgment, either bleeding or medicine. At 5.30 in the afternoon, I deemed the os sufficiently dilatable to admit a careful application of the forceps (Simpson's), the head being within easy reach. No difficulty was encountered in their adjustment, but in the effort to deliver no advance could be made. Thinking the funis might be abnormally short or tightly wrapped about the neck, I substituted the Tarnier instrument. I could cause the caput to appear at the vulva so as to be seen, but instantly it would disengage itself from the blades and fly back to its former position. At this point I first observed her pallor, and, putting my finger on her pulse, was shocked to find it a mere thread. Instantly suspending the anæsthetic, I administered brandy freely by the mouth and in repeated hypodermics. The lady did not rally, and died within thirty minutes. We satisfied ourselves of the death of the fœtus, but, seeking for some solution of this terrible and inexplicable result, Dr. Miltenberger, at my request, effected the post-mortem delivery. Upon introducing his hand he found a band embracing the shoulders, which, to use his own words, "gave the impression of a band of steel." It was only after a prolonged and most persistent effort that version was finally accomplished.

Such were the different phases of the case.

Let us consider the remedial appliances; and first, as to anæsthetics: Chloroform was used occasionally, and in small quantities, for an hour probably, just at the completion of a pain, "to blunt its edge," as the lady expressed it, but not carried to its full effect; indeed, more as a placebo. This was thought proper on account of the lady's highly sensitive organism, and to quiet, as far as possible, her urgent demands for relief. When instruments were used it was inhaled freely, but, as I have before stated,

instantly abandoned upon the appearance of dangerous symptoms. She came from under its influence speedily, asking questions, complaining of the strength of the brandy, demanding water, requesting to be fanned, etc., her intellect remaining unclouded to the last.

An accoucheur of large experience in a neighboring city wrote me of a case in his own practice very similar. He had supplemented what I had done by copious bloodletting, had failed with forceps, and after so long a time had succeeded in introducing his hand, but suffered the further complication of a ruptured uterus, losing both mother and child.

As to the immediate cause of death: In this case the lady passed from the influence of the chloroform quickly, and, so far as I could observe, entirely. She asked and answered questions, and her intellect was unclouded. As for the forceps, they were applied without difficulty and used with discretion. In nothing did the manipulation differ from their constant and ordinary use.

We must look for the real cause, I think, in the tetanoid condition of the uterus, as I have ventured to name it. Whether the opinion held by some be correct, that this condition is induced by the early evacuation of the waters, or that the source of danger must be sought elsewhere, I cannot determine. The reflex symptoms indicated a tetanic condition of the womb. Curiously enough, the lexicographers and surgeons speak of puerperal tetanus, but little or no mention is made of such a malady by any obstetrical author within my knowledge. Dr. R. P. Harris, in a note in Playfair, writes of "tetanoid falciform contraction of the uterus." Dr. Thomas C. Smith, in the "American Journal of Obstetrics," under the caption of "Ante-partum Hourglass Contraction of the Uterus," has given the fullest account I have seen of this form of dystochia. He has collated many reported cases as illustrating the general subject, referring to Dr. Roper's paper before the London Medical Congress in 1881. Dr. Hosmer's case, reported in the "Boston Medical and Surgical Journal," 1878, in which craniotomy was done, but without success, and a case reported by Dr. McDonald before the Edinburgh Obstetrical Society, 1878–79. But the nearest approach to the case under consideration is reported in the "Philadelphia Medical Recorder," 1821, by Dr. I. Baltzell, of Frederick, Md. After a fruitless trial of every expedient, the patient died undelivered, and upon a post-mortem examination the tetanic band was still so rigid as to require the knife in order to release the child.

How should such a case be treated? If the actual touch verifies the condition, the best procedure, in my opinion, would be version if possible, and in the failure of this the Cæsarean section. Should collaspe supervene, the free use of brandy, with external heat and electricity. Should its invasion be as rapid in point of time and progress as in my case, and in which respect it differs from all others known to me, then the prospect of success by the expedients suggested, or by any other, would seem to be very slight.

LAPAROTOMY, WITH REPORT OF THREE CASES

H. P. C. WILSON, M. D., said: I present to the Society this evening the report of my last three cases of Laparotomy.

The first was for the removal of a compound multilocular tumor of the ovary.

The second, for the removal of a papillomatous tumor of the ovary, with abdominal dropsy.

The third, for the removal of both ovaries and tubes, in a woman to whom all other means of treatment for over sixteen years had failed to give relief, and a shattered mind and body had brought her to great desperation.

Within the last few years so much has been done and written in abdominal surgery that I shall not be expected to add anything new on a subject so nearly ap-

proaching perfection, and yet there are points in every one of these cases that will not fail to interest those who are working in this department of surgery.

There is no surgeon who does not learn something from his last operation. There is no collaborator who cannot extract something of profit from the work of others. This is my excuse for detaining you this evening. If I shall fail to weary you, and add ever so little of pleasure or profit to this meeting, I shall be amply repaid. I shall at once proceed to

COMPOUND UNILOCULAR OVARIAN TUMOR.

CASE I. Mrs. H., æt. about 56, was brought to the Hospital for the Women of Maryland in February, 1887, and placed under my care by Dr. George B. Reynolds. She had a very large tumor occupying nearly the whole abdominal cavity. It was diagnosed to be a compound multilocular tumor of the ovary. She was very feeble. The tumor had been growing for several years. She was very pale, had been badly nourished, lived in a very malarious part of the city, and most of her time was spent at the washtub in a damp, illy-lighted cellar.

She was put on quinine, and an attempt made to build up her health, but, instead of gaining, she was seen to be rapidly losing strength, and it was found necessary to operate at once or she would probably soon die of exhaustion.

On February 22, 1887, she was chloroformed by Dr. Wm. P. Chunn, and, assisted by Dr. Robert T. Wilson, in the presence of Dr. George B. Reynolds, I opened the abdomen. My diagnosis was confirmed. The walls of the tumor were so rotten that the gentlest manipulation ruptured them, and a dark, thick fluid was discharged into the abdominal cavity. I proceeded to separate adhesions, during which much of the rotten parts of the tumor were broken off and fell within the abdomen. The pedicle was transfixed with a needle and double ligature, which was cut and tied on either side, and the tumor was then cut away.

Several gallons of hot water were poured in and the abdominal cavity thoroughly washed out. The abdominal incision was closed with silk sutures, and no drainage-tube was used. The patient made a good recovery for ten days, when a typho-malarial fever developed, and for five weeks afterwards she was desperately ill. She finally got perfectly well, and is now in excellent health.

This case is of interest for the great amount of hot water found necessary to thoroughly cleanse the abdominal cavity and its contents, for the near approach to death before the operation from exhaustion, and for recovery, after weeks of severe illness, from a typho-malarial fever following close on such an operation.

PAPILLOMATOUS CYSTOMA OF THE OVARY.

CASE II. Miss H., æt. 45 years, consulted me for the first time September 10, 1887. She had always been a perfectly healthy woman till six weeks before; never sick in her life. She had menstruated regularly until the time of seeing me, when she had missed her menses for five days over her regular period.

Six weeks ago she observed her abdomen was enlarging, without appreciable ill-health. This enlargement increased rapidly, until when I saw her it was so distended with ascitic fluid, as to greatly impede her respiration. I could nowhere discover a tumor in the abdomen or pelvis, so great was the abdominal distension. The pelvis was free, only a moderate thickening of the right broad ligament. Uterus movable and normal in size, as shown by the probe. The great abdominal distension prevented the discovery of anything by bi-palpation.

The heart was sound, liver healthy; examination of urine revealed no disease of kidneys, urine scanty and full of urates; lungs sound, no anasarca.

Under these circumstances I diagnosed

a papillomatous tumor of the ovary, and advised laparotomy, rather than tapping, for removal of the ascitic fluid, and, if possible, removal of the suspected tumor. I preferred cutting in to tapping, because I would then know the exact condition of things, and might be able at once to proceed to the removal of any tumor, which might be the cause of the ascites, and because if I were unable to remove the tumor, or might consider it unwise so to do, the abdomen was less likely to fill up rapidly again after an exploratory incision, than after tapping. This has been my experience in such cases. Moreover, I did not consider an incision much, if any, more dangerous than tapping. I left the city two days after this interview, and was absent one week.

I saw my patient again September 19. The abdominal enlargement was increasing rapidly. Dyspnœa was greater, and strength rapidly failing. Kidneys working badly. I again urged the operation, but the patient could not get her mind up to this point. She moreover plead the absence of members of her family, and was unwilling to consent to an operation till their return. I saw her every day or two, and urged the dangers of delay. In another week she became so exhausted as to be unable to move about, and had to rest in a semi-prone condition. Her family then returned, and Dr. William T. Howard was asked to see her with me, on October 3. He confirmed my plan of procedure, and an operation was appointed for Wednesday, October 5. The day before the operation her bowels gave way, and she had profuse diarrhœa, which was checked by liberal doses of paregoric. The night before the operation she slept soundly from the paregoric taken.

At 12 o'clock on October 5, being etherized by Dr. Wm. B. Canfield, and assisted by Dr. Wm. T. Howard and Dr. Robert T. Wilson, I cut into the abdominal cavity, making an incision of about two inches midway between the umbilicus and pelvis. Between two and three gallons of yellowish ascitic fluid was discharged. A ragged papillomatous mass presented, and on passing two fingers into the pelvis I found a large tumor growing from the fundus of the uterus and the right broad ligament and ovary. Masses of varied size broke away from the surface of the tumor on the most gentle manipulation, and bleeding was very free. With large compression-forceps I clamped the tumor close to the uterus and ovary and thus stopped hæmorrhage, having previously enlarged the incision to four inches. I then transfixed the broad pedicle with a needle, armed with a strong double ligature, which was cut and tied on either side, close to the uterus, and including the ovary. Each ligature was then brought entirely around the whole pedicle, and firmly tied again. The ends were cut short, and the tumor cut away.

Hot water was poured copiously into the abdominal cavity, and it was thus thoroughly washed out, much of the débris of the tumor coming away with the water. The peritoneum was in a state of sub-acute inflammation, with here and there a patch of recent lymph. A drainage-tube was inserted to the bottom of the pelvis, and the abdominal opening closed with twelve silk sutures.

The abdominal wound was dusted with iodoform—a linen cloth—absorbent cotton—a rubber cloth perforated by the drainage-tube, at the top of which was placed a sponge, and the rubber cloth folded over it, all secured by a flannel bandage. Hypodermics of whisky were necessary during the operation, which lasted over an hour.

The patient was then placed in bed, wrapped in warm blankets, with hot water bottles around her. Reaction came on very slowly.

At 10 p. m., temperature was 101° F., and pulse 140, and very feeble. No nausea. Ten drops of brandy in two teaspoonfuls of hot water were given every two hours. Ten drops of Magendie's solution of mor-

phia were given hypodermically, and fifteen drops of tincture of digitalis were given every four hours, and continued for three days. The drainage-tube was sucked every two or three hours during the afternoon and night with a glass syringe and rubber tube attached. Much bloody, watery fluid was withdrawn, and occasionally a small clot of blood.

October 6, 8 a. m., temperature 102⅘, pulse 136; slept some; very feeble. Ordered one teaspoonful of brandy, and three teaspoonfuls of hot water every two hours; one teaspoonful of lime water and two teaspoonfuls of milk every two hours. Digitalis as usual. Gave a hypodermic of 30 drops of muriate of quinia and urea. Drainage-tube sucked as yesterday, and half an ounce of bloody fluid withdrawn. None in the sponge. At 10 p. m., temperature and pulse same as in the morning. Thirty drops of quinia and urea were given as in the morning; digitalis continued; ten drops of Magendie's solution were given hypodermically at bedtime, but not repeated after to-day.

This treatment was continued for four days, except to increase the brandy to one tablespoonful every two hours, and the milk to eight tablespoonfuls every two hours. The highest temperature was 103⅘, and for four days it varied from 101 to 103⅘. Pulse was never under 120, and very feeble; the whole body was cool, and at times covered with a clammy sweat. Beef tea and brandy were injected into the rectum once or twice daily. Her prostration was very great.

At the end of the tenth day I removed the drainage-tube, although I was able to suck from it three or four times daily from two to four teaspoonfuls of a bloody, watery fluid. The tube was found to contain at its lower extremity a plug of solid lymph about one inch long.

October 13, one week after the operation. After the fourth day temperature fell below 100, and has not risen above it to this time. Pulse gradually subsided to 108, at which I found it to-day. Digitalis stopped after fourth day. Hypodermics of quinia stopped after eighth day. Her bowels were well moved by an injection of beef tea and brandy on the third day, and have been moved every day since. Passes flatus freely. Brandy and milk continued in same quantity, every two hours, night and day. Has some sero-purulent discharge from the seat of drainage-tube.

October 19, two weeks after the operation, temperature 98, pulse 100. Still some oozing of sero-purulent fluid from seat of drainage-tube. Removed all sutures twelve days after the operation. Union complete, except where the drainage-tube was. Tongue dry and red, complains of great weakness; bowels regular, and is much troubled with wind colic. Is taking large quantities of rich milk, with brandy or old port wine.

November 2, four weeks after the operation. Our patient has continued to improve slowly since last note. Has been eating and enjoying solid food for the past few days in addition to milk and brandy. Has been very nervous and depressed and sleepless. Opiates, bromides, and paraldehyde made her worse, and it was only when I put her on large doses of extract of sumbul and assafœtida in capsules that she became calm and cheerful, and obtained plenty of refreshing sleep. She has improved rapidly under these remedies, and sat up in a chair for the first time to-day.

November 8, convalescing rapidly. Has a good appetite; is cheerful and brighter, with no unpleasant symptom. Is sitting up and moving about her room. Drainage-tube opening healed.

Will this diseased mass, thoroughly removed from the pelvic organs of this lady, manifest its malignancy, by reappearing in the same place, or in some other part of her body? This is a question yet to be demonstrated.

The tumor was sent to Professor Wm. H. Welch of the Johns Hopkins University,

for analysis. He returned to me the following report.

* * * "The growth is as you diagnosticated, a papillomatous cystoma of the ovary. I have repeatedly found in ovarian tumors, as in this case, cancerous nodules, which apparently produce no metastases, unless they grow through the external wall of the cyst.

"The specimen consists of only a part of the original tumor. The part removed measures 18 ctm. in diameter and 8 ctm. in depth.

"The tumor is a large cystoma, consisting apparently of a main cyst and numerous smaller cysts. The external cyst wall is smooth and glistening in most places, but there are the remnants of many old adhesions. There are also several irregular outgrowths from the exterior of the cyst. These outgrowths are solid and covered with the external layer of the cyst wall. The largest are about the size of a pigeon's egg.

"The interior of the cyst contains many papillomatous projections and much sloughy material. In the papillomata and in the main cyst wall are many cysts filled with thick, colloid substance.

"The pedicle consists of connective tissue and blood vessels, apparently belonging to the broad ligament. The fimbria ovarica is present, but nothing else belonging to the fallopian tube can be detected. There is a small parovarian cyst with clear contents near the attachment of the frimbria ovarica.

"Microscopical examination shows that the interior of the cysts is lined by cylindrical epithelium. The papillomata are covered with similar epithelium and contain alveolar spaces lined with such epithelium. There are solid masses in the cyst wall with the structure of carcinoma — alveoli filled with epithelial cells.

"Diagnosis: The tumor is an ovarian cystoma of the variety known as papillomatous. In addition to the ordinary appearance of such tumors, there are in the present instance on the cyst wall carcinomatous growths. The tumor is malignant.

"WM. H. WELCH."

REMOVAL OF THE OVARIES AND TUBES AT THE PERIOD OF MENSTRUATION.

CASE III. Miss S., æt. 38, has been a patient of mine for about sixteen years. When she came under my care she had been a great sufferer for some time, confined to her bed, and having hystero-epileptiform convulsions, from five to ten per day, often of the most violent character. She had been unable to stand alone for months, and was brought to me on a bed from an adjoining State. She had terrible dismenorrhœa, and her whole nervous system was in a greatly demoralized state. I never encountered a patient who was a more complete wreck.

I found her with general pelvic cellulitis. Endometritis from cervix to fundus. Uterus anti-flexed and stenosed at the internal os. Her bowels were habitually, and necessarily, constipated. I have known her to go three weeks without an evacuation. At times it was impossible to move them with purgatives. Sometimes I had to rake out the rectum, and at other times I had to assist catharctics by passing a large and long gum tube up the bowels and throwing in the most active enemas.

By attending to the bowels, treating the cellulitis locally, and with constitutional means, she greatly improved; the convulsions ceased. She was able to walk about the city, and after several months under my care she was able to return home, a greatly changed woman. She has returned to me several times within the past sixteen years for treatment. Has as often been benefited, but never cured.

For the last few years her health has been declining. She has been again the subject of all sorts of reflected nervous symptoms, especially at the approach of each menstrual period, when she becomes at times melancholy, at other times greatly excited, so that she and her friends had

grave apprehensions that she would lose her mind. Convulsions have recently returned at the time of menstruation, and she was becoming addicted to the use of anodynes.

Under these circumstances she returned again, appealing to me for relief; and on October 3, 1887, she was admitted to the Hospital for the Women of Maryland. A careful examination, with a knowledge of all that had been done for her in the past sixteen years, brought me to the conclusion that the removal of the ovaries and tubes held out to her the only hope for relief from her present suffering and probable future dementia.

After two weeks of preparatory treatment, with laxatives, tonics, and nervines, rest and recreation, so as to brace up a shattered nervous system, the 18th of October was appointed as the day for operating.

When I called to see her the evening before, she informed me that the 18th was the day when she should commence to menstruate, though she sometimes went a week or ten days over her regular time. She had misled me as to the time of expected menstruation, but as everything was now ready, as she was up to the operating point, as she could ill afford the expense of remaining long in the hospital, as I never consider it wise to postpone an operation when the day is once appointed, I told her that I would perform the operation on the following day, even if her menses did come on. She had been much alarmed by a meddlesome nurse telling her the great danger she would be in if she were operated on during menstruation, or if it came on immediately afterward. On the next day (October 18), she was etherized by Dr. Wm. P. Chunn; assisted by Dr. R. T. Wilson, I made an incision of about two inches into the abdominal cavity. The ovaries and tubes were found to be enlarged and bound down by old adhesions. The former were soft and friable, the latter were inflamed and tortuous, doubled up at some points upon themselves. The gentlest manipulation caused the ovaries to tear, and I had much difficulty in raising them sufficiently with the tubes to ligate them. A double ligature was passed beneath them, cut and tied on either side, and each ligature was again carried entirely around the pedicle and tied again. The ovaries and tubes were then cut away. There was some oozing from the late adhesions, but sponging was kept up till all was dry, and the abdominal opening was then closed with seven silk sutures, and the wound dressed with iodoform and a dry linen cloth secured by a bandage.

The patient did well. Her temperature rose one day to 101° F., and rapidly fell below 100.° Her pulse never exceeded 110 after reaction from the operation was established.

Menstruation came on the 20th, just two days after the operation, and disappeared n the 24th, without any rise of pulse or temperature.

A few hours after menstruation began her pulse was 98° and her temperature was $100\frac{2}{5}$.

She had less flow, and less nervous disturbance at this period than for many months before.

This is my third successful laparotomy done during, or followed by, menstruation within twenty-four or forty-eight hours. I have never lost a case operated on during this period, and I am beginning to think it is a propitious time for these operations. I never had a patient make a better recovery than this, or have less constitutional or local disturbance.

I herewith present to the Society the ovaries and tubes removed.

A CASE OF NYMPHOMANIA.

WM. PAWSON CHUNN, M. D., said: In the history of the case I wish to present, my efforts were exerted without avail, and it is mainly on that account, as well as to obtain the opinion of those present, that I recite the following symptoms: A short time since a

patient from a neighboring State came under my care; she was in a deplorable condition, due to an ungovernable and continual desire for sexual intercourse. She was 23 years old, unmarried, and had never been pregnant. Her uterus was retroverted and hyperplastic. She complained of a numbness and pain in both ovarian regions, and had worn a pessary for a long time without relief either from the pain or the sexual desire; this last was her worst symptom. She deplored the fact that any one with sufficient opportunity could prevail over her scruples, as had already occurred several times. Sleep was lost at night, and rest disturbed by delusive dreams. She had never practiced any form of self-abuse. After a short course of the bromides, without effect, I suggested that marriage might give her relief. She objected to the motive; and, in addition, reminded me that she had derived no permanent benefit from illicit indulgence. Removal of the clitoris occurred to me, but only to be dismissed as unadvisable. She herself suggested the removal of the ovaries, as she felt satisfied that those organs must be diseased, thus accounting for the severe pelvic pain. This I considered to be too dangerous an experiment, as I had no certainty that she would be fully and permanently relieved by such an operation It seemed to me that taking out the ovaries was not exactly analogous to removal of the testicles in the male. We know that castration of the male removes almost entirely all erotic desire, but the effect on the female has not been sufficiently investigated; about 15 per cent. of all women go through life without any sexual desire whatever, the removal of whose ovaries could have no effect. Desiring to ventilate this subject as fully as possible, I sought out several women who had, to my knowledge, lost their ovaries; one, upon whom the operation had been performed about five years since, told me that at present she had no erotic desire, but, at the same time she volunteered the information that she never had experienced any such desire. Two other women whom I next questioned answered similarly, much to my surprise. On the other hand I have now under my care two sisters, aged respectively 58 and 60 years, both of whom have long since passed the menopause, but each claims now as much sexual appetite as she possessed in youth. Inasmuch as the ovaries of these women must by this time have become atrophied from age, it is apparent that the ovaries are not the only sources of sexual desire. Bearing these facts in mind I was necessarily uncertain in regard to the prognosis in the case of my patient, and having told her as much, she sought the care of another physician.

DISCUSSION.

Dr. G. LANE TANEYHILL remarked that in 1866, while assistant physician at the Maryland Hospital for the Insane, he was in the habit of cauterizing the clitoris with a view of preventing the patient from indulging in masturbation; for nine-tenths of his cases of nymphomania were the result of masturbation; this habit being prevented while the organ was in a state of inflammation in consequence of the use of the caustic, he was the more able to control the nymphomania proper by the free use of elaterium and bromide of potassium and low diet. Cold lotions and cold baths did not avail in his cases of nymphomania as they did in cases of satyriasis. He was of the opinion that Dr. John Fonerden was not far out of the way when he so vigorously insisted that masturbation was closely allied with many forms of insanity, but in his (Dr. T.'s) experience among the insane he had found the disgusting habit as frequently a result, as a cause, of insanity, especially in cases of nymphomania..

A NEW UTERINE CURETTE.

Dr. T. A. ASHBY exhibited a new uterine curette.

The instrument is modeled after the plan of the scoop which is found on the end of the grooved director accompanying the

majority of surgical-instrument cases. The scoop is attached to a long shaft and handle, so that it can be easily carried to the fundus of the uterus.

It is designed to occupy an intermediate position between Simon's sharp-cutting curette and Thomas' blunt curette. The advantages of the instrument are shown as follows:

1. The size of the instrument admits of its ready passage through the cervix without dilatation of the organ.

2. It is made of flexible metal, so that the shaft can be bent at any angle and thus admit of its application to the uterine cavity when the uterus is flexed upon itself.

3. It is severe enough in its action to cleanse the uterine mucous membrane of unhealthy granulations or vegetations without inflicting any injury upon normal tissue.

This curette will be found to do good service in cases where Thomas' blunt curette or Simon's sharp curette have been usually employed. It is more easy of introduction into the uterus than either of these instruments, and can be employed with equal advantage and greater facility.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

PATHOLOGICAL SECTION—MEETING, FRIDAY, NOVEMBER 4, 1887.

The President, Dr. C. B. Ball, in the Chair.

The Session for 1887-88 of the Academy was opened at the Royal College of Surgeons in Dublin, by the meeting of the Pathological Section.

The President delivered an address on Tetanus, after which Dr. Finny exhibited a specimen of Hour-glass Contraction of the Stomach, which was the seat of several ulcers.

The following were the clinical history and morbid appearances: Mary M'G., a domestic servant, æt. 29, was admitted into Sir Patrick Dun's Hospital on May 13, 1887, in a state of collapse and in great pain, which was referred to the lower part of the abdomen. After reaction had set in, under appropriate treatment, she vomited once, and the rejected matter consisted of tea and milk, but contained no blood. The urine was drawn off and found to be free from albumen and indican. All her symptoms were those of acute peritonitis from perforation. Death ensued eight hours after admission. Her history was that she had enjoyed good health up to three weeks before admission, but beyond some slight dyspepsia, she was able to continue her duties as a domestic servant up to the day previous to her admission. The post-mortem examination, made thirty-six hours after death, displayed acute general peritonitis, with flaky lymph and sero-purulent fluid, while the stomach was found to be the seat of recent inflammation, as well as of old and firm adhesions to the liver, spleen, pancreas, and diaphragm. At first sight there seemed to be two stomachs, or one with a very dilated duodenum; and this appearance was due to a constriction transverse of the stomach, nearer to the pylorus than to the cardia. On the anterior surface of the cardiac half of the organ, not far from the greater curvature, the origin of the general peritonitis was seen in the existence of a circular, sharply-defined, perforating ulcer, the size of a threepenny piece. On laying open the stomach it was found to have been the seat of several ulcers—(1), that referred to on the anterior wall, which on the mucous aspect measured a sixpence, and had the punched-out characteristic appearance; (2), a firmly cicatrized, circular

ulcer on the posterior wall, near the lesser curvature—which was not in a state of activity--whose floor consisted of the pancreas to which it was ultimately adherent; (3), a small ulcer in a stage of activity lower down in the posterior wall; and (4), an oval ulcer extending three-quarter inch from the lesser curvature, transversely to the long axis of the stomach, and in an active stage of destruction of the mucous and part of the muscular coat. This ulcer ran into the circular constriction which divided the stomach into two unequal bags. The constriction, which was half an inch wide, narrowed the organ so as to admit but three fingers, and had all the appearance, from external examination, of the pylorus. The lesser curvature was not dimpled or marked much, but towards it the greater curvature was drawn at this spot, so as to make two bags of the stomach. Its outside was thickened by old lymph, while on the inside the rugæ of the stomach seemed to run into it, and at its cardiac side was the ulcer referred to as No. 4. Dr. Finny discussed the pathological origin of the constriction, and remarked on its want of agreement with the features depended upon by Dr. W. R. Williams as distinctive of congenital hour-glass contraction. He alluded to the rarity of cases of this deformity of the stomach—the greater number having been discovered in the dissecting-rooms. He also laid stress on the following, as exemplified by his specimen--(1), the comparative greater danger of an ulcer situated within the anterior wall; (2), the co-existence of three ulcers in a state of activity; (3), the possibility of relapse; (4), the encouragement to treatment to be derived from the fact that so many ulcers—about half of those recorded—have been discovered in a state of cicatrization.

Dr. MacSwiney asked, Was there any history of the woman having taken food immediately, or soon before, she was attacked with the violent pain and collapse? Very frequently in such cases the rupture occurred in consequence of the stomach being distended with food. He thought Dr. Finny had established that the contraction in this case was pathological.

Dr. Finny, in reply, said there was history of food having been taken immediately before the occurrence of the great pain. The woman had never complained of any pain in the stomach, or other marked gastric symptom, until three weeks before her admission. She was doing her work as a servant when the sudden occurrence of pain obliged her to seek relief. The case was an example of ulcers painlessly eating their way through the walls of the stomach, and ending in perforation at short notice. The woman had vomited before she came into the hospital, and in consequence of the small size of the opening caused by the fatal ulcer nothing was extruded through it.

Dr. Lentaigne communicated a case of Epispadias.

Professor Bennett submitted a specimen from a case of Phlegmasia Alba Dolens.

The patient, a girl, æt. 15, was admitted on the 30th of September, 1886, into Sir Patrick Dun's Hospital, and remained there until the 27th of June, 1887, when she died. When admitted she had phlegmasia alba dolens in the whole of the left leg, which was distended with white œdema. She was extremely emaciated and anæmic, and her œdemic leg was in strong contrast with the rest of her body. There was great difficulty in assigning any cause for the ailment, pregnancy and parturition being entirely out of the question. She suffered from great gastro-intestinal irritation, which was complicated with vomiting and diarrhœa, accompanied with pain. So prominent were these symptoms that at first we thought that the case might be one of typhoid fever, which was even approaching the stage of recovery. The course of the case put that diagnosis out of the question. There was always great abdominal pain and irritation, which could not be controlled by any remedy save the most care-

ful attention to diet, milk being the only thing that the patient could bear. Three weeks after her admission œdema of the right limb commenced, and the condition of the right leg soon became the same as that of the other. Diagnosis then became easy, it being apparent that there was obstruction of the femoral and iliac veins, and that it had extended up the involved vein on the right side. Clinically the case was an extremely easy one to read, and before the swelling of the right limb occurred it was prognosticated that it would occur. The femoral vein could be felt hard and distended on the left side, and when the œdema on the right side occurred the vein on the opposite side was as firm and hard under the finger as a cord. After this, without any material change in the general system, collateral circulation of the venous system of the abdomen began to establish itself, with a reversal of the blood currents, these being directed towards the thorax, instead of the groin. There was then some slight clearing up of œdema, and just a prospect of recovery. Still the gastro-intestinal irritation remained; and then suddenly there came an accession of symptoms, indicating uræmic poisoning. Then there was rapidly developed extreme œdema of the whole body, which pitted rapidly and finally, with uræmic phenomena, death took place. He would now show what they had guessed at as the cause of the disease, but could not distinguish with certainty. There were two great cylindrical patches, close to each other, in the lower portion of the small intestine, of tubercular ulceration of the intestine, with a great series of enlarged glands infiltrated with tubercular matter occupying the mesentery. There was no tuberculosis of the lung; but the gastro-intestinal phenomena appeared to be produced entirely by the condition of the small intestine. The femoral veins and tributaries were occluded. The vena cava inferior was a complete fibrous cord, shrunk and flattened out. When it was traced up between the kidneys there was found a great, firm thrombus, which had already undergone calcification. Then came the most interesting point in the case. On the surface of that calcified thrombus, and projecting up the occluded vein, with its base between the veins of the kidneys, was a fresh, newly-formed thrombus superadded upon it. These thrombi had extended into the renal veins, which were completely occluded in their paths towards the kidneys; and the greater number of the small branches in the substance of the kidneys were also absolutely and entirely occluded. By the second deposit of coagulum on the basis of the old thrombus, and its recent extension into both the renal veins, the fatal issue was brought about, accompanied by the uræmic phenomena of suppression of the urinary secretion, and the rapid development of general anasarca, which was absent in the earlier stages of the case.

Dr. WRIGHT asked, Was the condition of the heart examined?

Dr. DUFFEY said that Trousseau, in his lectures, dicussed the cause of phlegmasia alba dolens, and referred to a case in which there was a swelling of the leg, with a subsequent development of collateral circulation and engagement of the other extremity, attended with intense gastric irritability; and from his knowledge of other cases he predicted the existence of malignant disease of the abdomen, although there was no tumor or other symptom of such disease. Here the disease, though not of a malignant nature, seemed to be very similar to it; and, as far as he understood, the mere pressure of tubercular matter did not appear to have had any affect in causing the obstruction. Trousseau also spoke of extreme anæmia as a cause of phlegmasia dolens. He (Dr. Duffey) had a case in the City of Dublin Hospital of swelling of the leg, in which the only apparent cause of the disease was anæmia. There was a fibrogenetic condition of the blood, to which Trousseau attributed the obstruction of veins.

Professor PURSER said the chief point of

interest appeared to be what effect the thrombosis of the renal veins produced on the secretion of urine. The idea generally held was that the quantity of urine secreted depended on the pressure of the blood on the renal capillaries. A remarkable case was recorded of a man in tolerably fair health, in whom an obstruction of the renal veins occurred, and in that case the secretion of urine was increased; but there was a good deal of doubt about the case, and it was important to know from Professor Bennett whether, when the uræmic symptoms commenced, and obstruction of the renal veins, as he believed, occurred, the secretion of urine increased or diminished to any marked degree. It was also important to know whether there was, previous to the occurrence of those symptoms, any albumen in the urine, and whether there was amyloid disease; for gastric irritation was not a common symptom in cases of mere tubercular ulceration of the intestines, particularly where it was so slight as in the present case. It was not improbable that the diarrhœa was due to degeneration of the blood vessels—amyloid degeneration—and, if so, the condition of the kidneys would not have been of such a kind as to make the change in the circulation of any value, one way or the other, as regarded the secretion of urine.

Professor BENNETT, in reply, said the heart was healthy; there was nothing whatever in its condition to call for description. There was no evidence of a tumor in the abdomen at any time. The thrombosis commenced apparently in the femoral vein, and there was no evidence of its having commenced higher up. During the latter days of the girl's life she was emaciated in the extreme, and it was impossible to collect the urinary secretion, or arrive at any details as to its quantity. But during the whole earlier periods of her ailments, and until what he had described as the last accident occurred, there was no albumen in the urine; and when the œdema suddenly developed she became unconscious and stupid, with occasional waking up and screaming, which phenomena he attributed to uræmic poisoning. There was no trace in the liver or spleen of any amyloid degeneration. The intestines were not examined for it, but there was nothing to lead them to suspect the existence of amyloid degeneration there either. The suddenness of the final attack of œdema drew his attention to the renal conditions; and then he examined such sample of the urine as he could get and found it albuminous. He felt justified in concluding that the fresh implication of the renal veins was the immediate cause of death; a week or so of it was, it seemed, sufficient to kill.

The Section then adjourned.

CHICAGO MEDICAL SOCIETY.

STATED MEETING, NOVEMBER 7, 1887.

The President, W. T. Belfield, M. D., in the Chair.

Professor J. A. ROBISON read a brief paper on the Treatment of Pertussis.

He said that since the discovery by Poulet in 1867 of a parasite which is probably the cause of whooping-cough, the disease has been treated by the local application of such germicidal agents as carbolic acid, eucalyptus, boracic acid, sulphur, illuminating gas, and resorcin. These had been applied by inhalations, insufflations, and sprays; but in many cases it is difficult to get children to allow the adminstration of the drugs; but he had used with success a solution of cocaine and resorcin in Semple's Atomizing Inhaler, the vapor being so fine that the drug is inhaled into the

bronchial tubes without producing any laryngeal spasm. This method of treatment had been successful, not only in relieving the cough but in cutting short the course of the disease.

Professor F. E. WAXHAM said that he did not believe that we have a specific for the cure of this disease. He has tried sulphur fumigation thoroughly and considers it useless. He thinks that there are two indications to be met in the treatment of the disease — first, to destroy the bacilli as far as possible by means of germicides, as has been advised in the paper read; and second, to diminish the reflex excitability of the nervous system by the use of sedatives and tonics.

Professor G. C. PAOLI advocated the use of ergot in pertussis. In 15 cases it cut short the duration of the disease.

Professor JAMES H. ETHERIDGE read a paper on Vaginal Hysterectomy, with a report of three cases, which was given in the January number of the *Journal and Examiner*.

Professor C. T. PARKES, in discussing said that he was pleased with the paper, in that it introduces a method of controlling hæmorrhage that had been satisfactory to him a good many times. For this method we are indebted to Péan of Paris, who depends upon it on all occasions and in all operations. It is not an unusual thing to find a wound that he has made containing a dozen of these forceps. He never uses a drainage-tube. Professor Parkes says that he himself uses them in all operations where it is difficult to apply a ligature, and especially in removal of carcinoma of the rectum, on several occasions leaving a half dozen forceps, removing them in twenty-four hours, without subsequent trouble. He does not see the necessity of turning the uterus over, thus endangering the entrance of diseased tissue into the peritoneal cavity. The posterior wall is uncovered, the broad ligaments are exposed, and what necessity is there of turning the uterus over? These orceps will reach the top of it, and will include the broad ligaments on either side, and can be applied just as well with the uterus in position as if it were turned over.

Dr. D. T. NELSON desired to quote a word from Martin, of Berlin, spoken before the International Congress, where this subject was discussed quite fully. He advocates the operation strongly, and made the important point that the operation is not justifiable when the uterus is not movable. When the tissues above and about the uterus have become involved by the diseased condition, then the operation should not be done.

Professor C. T. PARKES reported a case of Nephrectomy. He said a patient had come under his care who, it was said, had been suffering for two years with cystitis, the diagnosis being based upon pus in the urine.

Upon examination, a tumor could be easily palpated in the right side of the body beneath the ribs, large enough to extend down to the superior spinous process of the ilium, and reaching up to the hypogastric region below the liver. The tumor appeared to be so elastic as to present some of the characteristics of a sac containing fluid. With an aspirator needle pus was detected. As the case presented none of the usual symptoms of a peri-nephritic abscess, it was diagnosticated a case of suppurative disease of the kidney, communicating with the bladder through the ureter. There was no apparent disease of the bladder itself, other than that which would be present as a consequence of the foreign substance in it.

In the operation an incision was made over the tumor outside of the erector spinæ muscle, and the tumor was exposed; then the pockets of pus in the organ were located by the hypodermic syringe. Three pockets of considerable size were opened, and drainage-tubes introduced. About a pint of pus was let out. It was decided that the three pockets did not communicate.

One of them opened freely into the

pelvis of the kidney, and water injected into it went into the bladder, showing that there was a direct communication from this pus cavity with the bladder. The drainage-tubes were left in and the patient improved promptly, losing the fever and symptoms of pus accumulation and retention. For two weeks the improvement continued; then it was noticed that she began to fail rather rapidly and to show signs of fever again; there were signs of septic accumulation, and the tumor began to increase in size. As she was failing and the diagnosis was as complete as it was possible to make it, it was decided to perform nephrectomy.

There are some points of importance in the case: The drainage-tube that went into the pelvis of the kidney gave free exit to such a quantity of urine that it seemed almost the entire amount secreted by that kidney. There was also a free flow of urine from the bladder, and these facts led to the conclusion that the left kidney was not diseased and that the right could be removed.

Two or three hours before the operation was performed the patient was given gr. v. to x of quinine and gr. $\frac{1}{4}$ of morphine, to prevent shock, and the operation for the removal of the kidney was performed. The whole proceeding from begining to end occupied an hour, and she went to bed without any manifestation of shock, and with a pulse of 112. She had no rise of temperature until the second day, and then it rose to 100 F.; subsequent to that it fell to normal and did not rise above normal until the twelfth day, when other symptoms appeared. During all this time the wound was absolutely aseptic. It healed promptly by first intention, so that on the seventh day all stitches were removed.

The point of special surgical interest in the case was the manner of making the incisions. The commencement of the incision was two inches above the anterior superior spine of the ilium. It was carried in a curved direction downwards and backwards to the tip of the last rib. It was carried through all the tissues down to the fascia transversalis, everything having been carried forward out of the way, and with the finger the dissection was made well behind the tumor; all the parts were separated, then a straight incision made through all of them, straight back from the first incision and half way between the crest of the ilium and the last rib. The introduction of a ligature at the point of the posterior flaps and pulling them aside made an opening which admitted both hands.

By exposing the kidney completely, he could without difficulty reach the tissues which he wished to have under control.

As soon as the incision was made the tumor presented itself, and a finger could be carried around it in all directions so that the kidney with its blood-vessels, ureter and all were well exposed to view. Sixteen days after the operation the patient exhibited symptoms of cerebral trouble, with suppression of urine, and died with symptoms of uræmia.

At the time of the making of the report of the case no satisfactory miscroscopic examination of the tumor had been made, nor had the condition of the other kidney been demonstrated by the microscope. The post-mortem examination showed that it was congested and swollen, and ruptured capillary vessels in many places. Such examinations as had been made of several sections of it had not shown the presence of bacillus tuberculosis.

Dr. D. T. NELSON said that he was very much pleased at the doctor's instructions in regard to preparing the patient for these serious operations, and believed we have considerable to learn in that direction yet. He also suggested that the alimentary canal be prepared previous to such operations, and perhaps rendering it antiseptic or aseptic by emptying it and subsequently giving antiseptic drugs, preferably naphthalin in 5-grain doses, three times a day. He asked Professor Parkes if, in making

the incisions, he is careful to preserve the capsule of the kidney and use that in facilitating drainage.

The president remarked that the fatal issue of this case through uræmia emphasizes the necessity for ascertaining the integrity of the opposite kidney before removing the one under suspicion; and mentioned the methods of obtaining urine of each kidney by cauterization of the ureter.

He said, it is questionable whether, for nephrectomy, or, indeed, all operations upon the kidney, chloroform is not preferable as an anæsthetic to ether, because of the decided renal irritation caused by the latter.

Professor PARKES, in closing the discussion, said that he considered the method of making the incisions superior to the old because of the increased freedom gained in getting at bleeding points caused by the enucleation.

In reference to Dr. Nelson's question as to whether he had cut down on the capsule, he said: "I am not positive whether I did or not. I pursued the course which I follow in removing all tumors, to cut down on the tumor and to get as close to it and as far away from the dangerous points as possible. I kept close to the surface of the kidney and away from the peritoneum.

"I do not know what would have been gained by Dr. Belfield's suggestion. This patient was secreting urine from the other kidney into the bladder; it was emptied out through the ureter and could be collected and examined just as well as if the ureter had been catheterized. In the first 24 hours the patient passed 7 ounces of urine from the bladder, in the next 24 hours 10 ounces, and so on up to the time of the occurrence of the unfortunate symptoms to which I have referred. The largest amount passed was 17.3 ounces in 24 hours. Up to that time there was nothing in the appearance of the patient that would make one think she was not going to recover. All at once the change and the end came."

NEW YORK ACADEMY OF MEDICINE.

A Discussion on Hernia—Treatment of Strangulated Hernia; Management Before Operation; Principles of the Operation — Conservative Treatment of Irreducible Hernia--Strangulated Hernia in Children—Telegraphic Mind-Cure.

At the December meeting of the Academy of Medicine there was a discussion on the subject of hernia. It was opened by Dr. T. HERRING BURCHARD, who gave an exposition of the modern treatment in strangulated hernia, and urged the advantages of early operative interference. He said that, encouraged by the remarkable success obtained in the treatment of strangulated hernia by the methods suggested by Mitchell Banks, Czerny, and others, surgeons had latterly paid special attention to the radical cure by operation, as applied to cases in which strangulation existed, and the results achieved had been gratifying. The modern operation found its greatest advantage in the radical cure it secured by the complete closure of the sac and the permanent obliteration of the canal; and it had been successfully performed upon all forms of hernia--inguinal, femoral, and umbilical—with equally satisfactory results. In the light of these facts he thought that no operation for strangulated hernia could be said to be properly performed without the final closure of the inguinal canal.

With regard to the management previous to operating Dr. Burchard said that his experience had led him to the adoption of a plan of treatment substantially as follows:

1. Pain is allayed, vomiting quieted, and nervous tranquility secured by the hypodermic administration of morphia and atropia.

2. As soon as practicable a careful examination is made of the hernial tumor, any attempt at reduction being studiously avoided.

3. If evidences of inflammation are found, or if there is much swelling in the tumor, a poultice of flaxseed meal and cracked ice, or the ice-coil, is at once applied; these being dispensed with, however, if the patient is feeble or the strangulation is of long standing.

4. A stimulating enema of turpentine and oil, or a large emollient one of flaxseed tea, is administered and the rectum thoroughly washed out. If the tumor is at all distended no attempt at taxis is made until.

5. The patient is anæsthetized, permission having first been obtained to proceed with the operation in case taxis should fail.

He especially emphasized the advantages to be gained by putting the patient under full anæsthesia (preferably by chloroform), covering the tumor with a rather large and heavy ice poultice, elevating the lower extremities, and keeping the hands entirely off for a period of from thirty to forty minutes. In a number of instances, he said, he had had the satisfaction of seeing the tumor slip back of itself, almost imperceptibly, even after prolonged taxis had been unsuccessfully employed. As to just how long the attempt at reduction was justifiable, no absolute rule could be laid down. In some cases it was advisable that the trial should be kept up for twenty, or even thirty, minutes, provided always that only the most gentle manipulations should be employed.

Taxis having proved unsuccessful, the operation should at once be undertaken, and the general principles upon which, as a legitimate surgical procedure, it was based were the following:

1. A more general recognition by the profession of the value of time in the earlier stages of strangulation, so that surgical relief could generally be rendered before pathological changes which were irremediable had taken place in the tissues.

2. Modern herniotomy implies an abandonment of those uncertain and pernicious methods and practices which, founded in a false pathology, sought to relieve the strangulation by producing a condition of systemic relaxation. It is now recognized that spasm, as a causative agent in the production of strangulation, never exists.

3. Modern herniotomy restricts the employment of taxis within limits which are rational and safe. Necessary as properly directed taxis is in the reduction, by its indiscriminate and reckless use irreparable damage has not infrequently been done the intestine.

4. Modern herniotomy implies the early resort to a cutting operation. Many lives, Dr. Burchard said, had to be sacrificed before the profession seemed to realize that the gangrene and ulceration, the fœcal extravasation and stercoraceous vomiting, the peritonitis and collapse, were not necessary and integral factors of the primary condition of strangulation, but secondary complications, developing later on in the progress of the disease, and the legitimate result of delay in affording relief to the original constriction.

5. Modern herniotomy is an antiseptic operation, demanding the fullest application of Listerian principles.

6. Modern herniotomy requires in the disposition of the hernial sac the finest impartiality of judgment. Certain cases require incision, while in others the strangulation can be readily reduced without opening the sac; so that it would be folly to thus complicate the operation and expose the patient to unnecessary danger.

7. Since Mitchell Banks, of Liverpool, has urged the possibility and expediency of perfecting the old operation of kelotomy, so as to add to the operation done for the

relief of strangulation the inestimable advantages of an operation for radical cure, the strongest possible encouragement has been given for the attainment of an early, thorough, and perfect operation.

Professor V. P. GIBNEY said that he should like to make some protest against the strong condemnation of taxis which Dr. Burchard had expressed, as he had seen a number of aggravated cases of strangulated hernia reduced under taxis as employed by the average practitioner.

Professor ROBERT F. WEIR remarked that while the radical operation unquestionably marked an improvement in this field of surgery, it could not as yet be regarded as a perfected operation; and, having given some statistics showing the comparative frequency of relapses, he said that surgeons were everywhere practicing the operation, and he feared too freely—that is, too freely in non-strangulated hernia.

Dr. W. B. DE GARMO read a paper on the conservative treatment of irreducible hernia, which did not treat of strangulated hernia, but advised a course of gentle manipulations in cases which were generally regarded as irreducible. The first thing to do, he said, was to get the mass freely movable in the sac, and then use compression, rather than ordinary taxis. In the second place, the tumor was to be separated from the vicinity of the testicle, if it was situated in the rectum. In other words, it was to be perseveringly stripped from its lower adhesions, and gradually worked upwards, no force whatever being used. The complete separation of the omentum, so frequently forming a part of the mass, was accomplished before the reduction proper was commenced. By taxis he explained that he meant the gentle manipulation of the neck of the sac, but employed in such a way as to avoid pressure back against the abdominal rings, which was apt to be resorted to in taxis as commonly practiced. The manipulations were to be kept up for from fifteen to forty-five minutes at a time and repeated once a day. In some cases he was in the habit of directing self-applied taxis. After the reduction the hernial sac usually remained, but if the hernia was kept properly in place by a well-fitting truss, the sac often disappeared in the course of time. Out of ten cases reported by Dr. De Garmo, there were seven reductions and two failures; while one case was abandoned on account of the patient's having diabetes.

An interesting part of the discussion was that in reference to strangulated hernia in children. Dr. A. G. GERSTER read a paper on this subject in which he reported four cases operated upon, and said that there was one point of difference in the treatment required as compared with that in adults; this being due to the difficulty of preventing infection of the external wound in small children. Primary union did not occur after suturing, and he therefore advocated an open treatment of the wound. It was his practice to pack it with iodoform gauze in order to secure an aseptic condition.

Professor WEIR said that he had had two cases in children, like those of Dr. Gerster, in which he operated; and both had proved fatal. In two other cases he had successfully reduced the hernia without operation, by resorting to the expedient of inserting the finger into the rectum, and thus combining internal with external pressure.

Professor GIBNEY, who has had an unusually large experience in the matter at the Hospital for Ruptured and Crippled, said that he did not recall a single instance of strangulated hernia occurring in childhood in which it was not possible to reduce the strangulation with the aid of chloroform. Furthermore, he believed that if the hernia could be reduced in children, it could be cured simply by the wearing of a suitable truss. As, in addition, the operation was a more serious one than in adults, he thought that operative interference should never be resorted to in children; and such interference became all the more unnecessary in the light of the successful results accom-

plished by the conservative methods advocated by Dr. De Garmo.

In concluding the discussion Dr. De Garmo said that he had met with only temporary incarceration in children. No serious results had ever occurred in his experience, and he had never found it necessary even to resort to taxis in such cases.

PATHOLOGICAL SOCIETY OF PHILADELPHIA.

In an address before this society, by Dr. W. T. Councilman, of Baltimore, Maryland, on Some Further Investigations on the Malarial Germ of Lavaran, he said:

This organism, first described by Lavaran, has been met with in every case of malarial fever which the writer has met with. The organism is in high degree polymorphous, and ten tolerably distinct forms may be found in the blood. Some of these evidently represent different stages of development, and the connection between them is obvious. Others present such marked differences in form that no connection between them can be made out. Some of the forms are only found outside of the red corpuscles, and others are found free in the blood. They are, 1, non-pigmented small amœba-like bodies inside the red corpuscles; 2, pigmented bodies larger than No. 1, also in red corpuscles; 3, pigmented bodies about the size of red corpuscles; 4, segmenting forms of the No. 3 body; 5, small hyaline bodies, which are formed by this segmentation; 6, a crescent-shaped body with pigment in the centre, the horns of the crescent being often connected by a fine line; 7, round or oval bodies which differ from No. 6 in shape only; 8, a pigmented body provided with numerous long, actively moving flagellæ; 9, actively moving free flagellæ, which are evidently derived from No. 8; 10, a pigmented body with an active undulatory movement of its periphery. The first five forms are found only in intermittent fever, No. 4 only being seen in the blood during the chill period, and its presence is invariably connected with the chill; Nos. 6 and 7 are found in cases of malarial cachexia.

The most interesting forms, and about whose parasitic nature there can be no doubt, are the bodies Nos. 8 and 9. These are generally absent in blood taken from the finger, but they may be found in any type of the disease. They are the only forms of the organism whose presence in the blood is not associated with a special type of the disease. They were found, however, in fifteen out of the twenty cases in which the blood of the spleen was examined. Of these twenty cases twelve were cases of malarial cachexia, and eight of intermittent fever. In the twelve they were found ten times and in the eight cases of intermittent five times. From this it seems probable that Lavaran was right in considering the flagellate organism the most important form of the parasite. The influence of quinine on the intracorpuscular forms of the parasite is most marked. Doses of 15 grs. t. i. d., for two days in succession, were found sufficient to cause them to disappear. The effects of the quinine were not so apparent in the other forms. The crescents were apparently not diminished in number in one individual after he had taken 45 grs. of quinine daily for seven days, and 60 grs. daily for four days.

Professor Wm. Osler said the thought which had struck him most forcibly, in looking over this subject, was the almost perfect unanimity which has prevailed among the different observers as to the appearance of these organisms. With the sole exception of the segmented form (No. 4),

Lavaran and the early observers had described them all. His own observations, since the communication he had presented to the Society last year, had been somewhat limited. He had, however, made a series of observations upon the blood of fishes and birds, since it had been stated that bodies resembling Nos. 1, 2, and 3 had been found in the blood of carp and some water-fowl. Professor Baird had offered him facilities for this work at Wood's Holl, and had kindly furnished him with forty-five carp. He had failed to detect any such organisms in the blood of these. In the blood of a goose sent him from Ontario he had found one or two pigmented bodies. It had been stated by Dr. McCallum, who sent him the goose, that the bird had malaria. However, the bodies were not numerous, nor was the temperature of the goose elevated, nor, so far as he could make out, had it chills. Dr. Councilman had not figured one body that is very peculiar indeed, namely, a solid body in the centre of a clear space. It stains like a micro-organism, varies in size, and although the body itself does not change in form, yet there are sometimes changes in outline in the clear space surrounding it. They were somewhat abundant in one case only.

With regard to the clear bodies (No. 1), he said, in five or six instances he had seen such bodies pass out from the corpuscle, remaining out and undergoing no further change of form. He was not altogether prepared to say what was the relationship of these bodies to the other bodies described. It has been claimed that similar changes can be obtained by special methods of treating the blood. The most important question is first to determine the relationship of the hyaline to the pigmented bodies, and the possibility that the hyaline may not be directly associated with them. He was convinced that the pigmented and segmented bodies were merely different stages. He could fully confirm what Dr. Councilman said with regard to the crescents. They are most peculiar and interesting bodies, occurring in the chronic cases and in those in which there had been no chills. Three weeks ago he had diagnosticated a case as one of mild typhoid fever; it had lasted eight or ten days, with constant fever, up in the evening, down in the morning; slight enlargement of the spleen, no spots. His resident examined the blood and found what he thought were crescents. The case got rapidly better, left the hospital, and returned in a few days with a distinct chill, with crescents in the blood and a well-marked remittent fever. The mobile forms he had not seen nearly as frequently as Dr. Councilman; though he had not examined the blood from the spleen they had been present in eight or ten cases. Nor had he seen free filaments nearly so often; when he wrote his paper he had not seen them at all. Since then he had watched the process of separation. It was out of the question to suppose that the crescents or mobile forms could come from degeneration in the stroma of the corpuscle, but that the hyaline forms resulted from such changes was not altogether improbable; and further investigations were necessary to determine this point.

Dr. J. P. C. GRIFFITHS called attention to the diagnostic value of these organisms, and instanced a case where, from the indefinite history and symptoms, he was unable to make a diagnosis until after an examination of the blood, when a short course of treatment resulted in recovery.

Professor H. C. WOOD said that no one seemed to have made any connection between the crescents and the amœboid forms; they seem to differ in that these are destroyed by quinine, those are not affected. We know that malarial cachexia is cured by quinine, arsenic, and iron. If these remedies have no effect on the crescents, what connection have these bodies with malaria, and what becomes of them--do they eventually disappear?

Dr. FORMAD asked if these organisms are

the same as described by Hütter some twenty years ago.

Dr. COUNCILMAN said, in conclusion, that Hütter described moving bodies attacking the red corpuscles, existing in all fevers and apparently almost everywhere else. These observations had never been confirmed. The point raised by Dr. Wood had always puzzled him, and for a long time he had tried to reconcile himself to a belief in two distinct diseases, but this he could not do, as always as the other forms disappear the crescents appear. He had never seen the crescents unless with a history of previous chills. He was not altogether prepared to say that quinine had no effect on the crescents, though in several cases he had given it in large doses with no results. Still in some cases they do seem to disappear. He thought with Dr. Osler that the crescents could not be possibly produced by changes in the stroma of the corpuscles, though some of the other forms might.

THE INTERCOLONIAL MEDICAL CONGRESS OF AUSTRALASIA.

The first Intercolonial Medical Congress was opened in Adelaide on August 30, under the Presidency of J. C. Verco, M. D. (Lond.), F. R. C. S., Eng.

Secretary's Report.—Dr. Poulton read the report, which stated that this Intercolonial Medical Congress of Australasia was the outcome of a suggestion made by the council of the South Australian Branch of the British Medical Association at the annual meeting held in June, 1886, that a medical congress might well take place during the jubilee of Her Majesty's reign, at a time when the colony of South Australia would be celebrating the completion of the first fifty years of its history, and during the term of the International Exhibition in Adelaide. The members of the branch heartly concurred in the suggestion, and being the only organized medical society in South Australia, forthwith appointed a committee to co-operate with the council in formulating the scheme of such a congress, and in inviting the co-operation of the profession throughout the Australasian colonies. The joint provisional committee consisted of Messrs. Cleland, Clindening, Corbin, Hayward, and Drs. Gardner, Poulton, Stirling, Davies Thomas, Verco, and Watson. Numerous promises of support were received from representative members of the profession in the various colonies, and the council of the University of Adelaide generously granted the use of their halls. The presidents of all the medical societies of Australasia had become vice-presidents of the congress. Special delegates were present from the New Zealand Medical Association, from the Universities of Sydney and Melbourne, and from the Medical Societies of Sydney, Melbourne, Brisbane, Ballarat, and Sandhurst. The number of members present was 155, and included practitioners from New South Wales, Victoria, New Zealand, Queensland, South Australia, the Northern Territory, and Fiji. The work of the congress would be conducted in the four main sections — medicine, surgery, gynæcology, and state medicine — under the presidency of Dr. Williams, Mr. Fitzgerald, Mr. Foreman, and Dr. Whittell, respectively.

Official Welcome.—His Excellency, the governor, then welcomed the Congress to Adelaide in an appropriate speech.

President's Address.—The President (Dr. Verco) delivered an address, in which he mentioned the various reasons why Australian professional men should meet in congress; these were especially that they might make common property of the facts peculiar to Australia which had been observed in disease, of the methods which

had proven most appropriate in their hands, of the new remedies nature had provided, of suggestions relating to medical ethics or legal status arising out of colonial life, and finally that an opportunity might be afforded to those far away to contribute their unique or exceptional experiences for the general interest, and to reap the pleasure and profit of that social and professional intercourse which was so rarely theirs. He dwelt on the pharmaceutical and balneological novelties which Australasia might be able to afford, and on the climatological peculiarities which might not only be of use in the treatment of disease, but were actually modifying the physical type. "I have," he said "measured 300 South Australasian immigrants from the old world; they stand 5 ft. 7·13 in., and weigh 146.58 lbs. I have contrasted with them 259 South Australians born in this colony; they average 5 ft. 8.21 in., and weigh 146.42 lbs. Our native population are therefore exactly an inch taller than their forefathers, and within the fraction of a pound the same weight. What is the significance of these facts? That our southern climate, our social circumstances, our mode of life, are altering the physical constitution of the healthy man, of the growing child, and giving him a taller and more slender form."

Votes of Thanks.—A vote of thanks to the governor was proposed by Dr. Stirling and seconded by Dr. Wilkinson, M. L. A. (Sydney), and duly acknowledged. A vote of thanks to the President for his able address was moved by Archdeacon Farr, and seconded by the chief justice.

SECTION OF MEDICINE.

President's Address.—Owing to the illness of Dr. Williams, his address on the advances of modern medicine was read by Professor Allen. The chief feature of modern medical work was the attempt to grasp the natural history of disease. Dr. Williams thought that a thorough sympathy, an active co-operation in inquiry, between physician and pathlogist, which shall lead each to assist, to verify, to correct the work of the other, were needed. The causes of disease, the influence of family tendency and of personal surroundings, the connected history of patients from birth to death, the questions of idiosyncracy in treatment, all these formed the domain of inquiry for the private practitioner. In these matters, too, the county physician had more accurate and continuous knowledge of his patient; he dealt with questions in simpler form, and hence his observations might be most valuable. Without doubt, the present isolated professional life of the bulk of country practitioners involved a grievous waste of useful knowledge which should be conserved for the general good. He expressed approval of the system of collective investigation.

Papers.—During the Congress the following papers were read in this section: Fear as a Factor in Producing many of the Alarming Symptoms following the Bite of Australian Snakes, by the Hon. J. M. Creed, M. L. C. (Sydney); Some Remarks upon the South Australian Climates, and their Influence on Phthisis, by Dr. Astles, M. D. (Adelaide); on Grindelia Robusta, by Dr. Dixon, M. B., Lecturer on Materia Medica at the Sydney University; Hydatid Disease of Brain, J. Davies Thomas, M. D.; Tuberculosis, F. W. Elsner, F. R. C. S. I.; Hydatid Disease (a case), J. W. Springthorpe, M. D.; Anæmia, J. Reid, M. D.; Epilepsy (cases), J. W. Springthorpe, M. D.; Dilatation of Stomach, F. W. Elsner, F. R. C. S. I. Some interesting notes on modification of symptoms in Central Australia were laid before the Congress by Mr. J. P. Baker, F. R. C. S., of Strangways, South Australia.

New Zealand Thermal Waters.—A paper on the Thermal Springs District of New Zealand and the Government Sanitarium at Rotorua was submitted by Dr. Ginders, of New Zealand. After dilating on the delightful climate of Rotorua, Dr. Ginders mentioned that the thermal springs district

of New Zealand comprised an area close on 1,000 square miles, and its altitude ranged from 1,000 to 2,000 feet above sea-level. No spring had obtained a higher reputation than that known as the Priest's Bath. The character of the water was sulphurous, aluminous, and strongly acid; and its temperature varied from 98° to 106°.

SECTION OF SURGERY.

President's Address.—The address to the Surgical Section was delivered by Mr. T. N. Fitzgerald. After referring to the extraordinary advances made in medicine within the memory of living men, he said Australian surgery possessed two peculiar features—(1), the prevalence of hydatid disease; and (2), the absence of rachitis. A student might go through the whole of his curriculum without witnessing a genuine case of rickets. Professor MacEwen, in Glasgow, a town whose population was not greater than that of Victoria, recorded his thousandth operation for genu valgum. Mr. Fitzgerald ventured to say that, if the whole colony was searched, not five cases suitable for operation would be found. The Australian child, even emerging from the lowest den, was straight-limbed and level-featured. A neglected club-foot might possibly be met with, and occasionally chronic hip-disease was seen; but rachitis and bone distortions arising from other causes than fracture were almost unknown.

Papers.—The following papers were among those read in this Section: Case of Scrofulous Pyelonephritis, Removal of Kidney by Langenbeck's Incision; Lumbar Drainage, Recovery, by Dr. H. W. Mansell, M. D. T.C.D., Honorary Surgeon of the Dunedin Hospital; Hydronephrosis, Removal of Kidney, Recovery, by Dr. Jell, Wellington, New Zealand (read by Dr. Closs). Demonstration and illustration, by Dr. Mansell, on (*a*) the use of carver's tools in hard cleft palate; (*b*) a demonstration enterectomy; (*c*) extroversion of bladder; (*d*) removal of foreign body from the bladder by suprapubic operation; (*e*) a method of radical cure of femoral hernia. Extirpation of Larynx, by Dr. W. Gardner; A New Method of Drainage after Abdominal Incision, by Mr. O'Hara; Ophthalmic Papers (two), by Dr. Symons; On Operation in Compound Depressed Fracture of the Skull, by Mr. Muskett.

SECTION OF GYNÆCOLOGY.

President's Address.—The address was delivered by Dr. Forman, of New South Wales.

Papers.—The following papers were read: History and Progress of Ovariotomy in the Australian Colonies, by Dr. Pinnock, M.B., etc, (Ballarat); Oöphoritis and its Relation to Oöphorectomy, by Dr. J. O. Closs; On Shortening the Round Ligaments, by J. Foreman, M.R.C.S.; The Alexander-Adams Operation, by Dr. W. Gardner.

SECTION OF STATE MEDICINE.

President's Address.—Dr. Whittell referred first of all to the evidence taken by the commission appointed by the New South Wales Government to inquire into the law respecting the practice of medicine and surgery in that colony, and the revelations and confessions were astounding. He then discussed the means of preventing the importation of infectious diseases. The Northern Territory and Queensland, he observed, lay dangerously near to thickly populated countries which were seldom or never free from small-pox. The Chinese from those countries kept up a constant immigration into the northern ports, and it was possible that a patient might become infected with small-pox in Hong-Kong or Sumatra, might sail to the Northern Territory, land there, mix with the population, and be lost sight of before the outward signs of the disease became manifest. He said that a station was required at Port Darwin, where the strictest investigation should be made, and where no vessel should be allowed to pass on until all risk of its

bringing infection should have ceased. He also pointed out that it would not be safe to trust to inspection alone, but that vaccination ought to be systematically performed.

The State, the Practitioner, and the Public.—Dr. Stirling delivered an address, in which he stated that though to some extent the contentions of the profession through the medical associations in Great Britain and Australia to induce the legislature to undertake the control over certain matters in which the medical profession were peculiarly interested, had been carried into effect, there were still many points on which practitioners had not received the consideration they deserved. He urged, first, that the state should accord protection to qualified practitioners only, and should at least discourage, if it did not entirely prohibit, practice by unqualified persons; secondly, that the assumption of professional titles and qualifications by persons possessing none should be punishable; thirdly, that medical certificates as to the cause of death should be received only from duly qualified medical men; fourthly, the definition of a qualified practitioner should be more strict; fifthly, that the authority which determined the issuing of a certificate of registration as a legally qualified practitioner, should equally have the power of canceling or suspending them.

Dr. Bickle, in a paper on the Relation of the Profession to the Public, referred especially to the abuse of clubs.

Dr. Abramowski agreed with Dr. Stirling's suggestions.

Dr. Jameson said that a person desiring to practice in Victoria was obliged to produce satisfactory credentials of having studied a proper length of time, and that he possessed the necessary qualifications, before he was registered.

The Hon. Dr. Creed said that in New South Wales practically no law to control the practice of medicine existed. Quacks could not be prevented from practicing, but people should be informed exactly with whom they were dealing.

Tests of Vision.—Dr. James Rudall delivered an address on government responsibility in regard to sight-testing for land and sea service, and gave as his conclusions that it was the duty of the government to pass laws which could not be evaded, to ensure the public safety in traveling.

Cremation.—The Hon. Dr. Creed, after referring to the advantages of cremation, said that he thought the object of the advocates of cremation would be best carried out by the establishment of societies for the purpose in all the colonies. The duty of such societies would be to detect and bring before the public any instances of danger to health which had been created by the burial of bodies in unsuitable cemeteries; to disseminate literature giving information on the subject amongst the people; to provide, in due time, fitting apparatus for carying out the process; to advocate the passing of laws to ensure its being done without shock to the sensibilities of those persons whose prejudices prevented their being favorable to it, and to provide regulations which would prevent it, in some rare instances, being made a means for the concealment of crime. In this way public thought would be so educated by example that in a very few years cremation would become as general and as much desired by the majority as burial is at present. A danger to health would be removed, and he thought they would agree with him in believing that refined sentiment would be better conserved than it was at present.

Entertainments.—In the afternoon of the first day (August 30) the mayor of Adelaide entertained the members of the Congress at luncheon, and in the evening a *conversazione* was held in the University. On September 2 (the last day of the Congress), the President and South Australian members entertained the visiting members and many distinguished guests at a public dinner.

Next Congress.—It was decided that the next Congress be held in Melbourne, in 1890, or at such time as the medical so-

cieties of Victoria shall determine. The Hon Dr. Creed (Sydney) proposed that Mr. T. N. Fitzgerald, of Melbourne, should be the President-elect of the Congress, and in doing so paid a tribute to the value of Mr. Fitzgerald's work. Dr. Gardner (Adelaide), in seconding, said he knew of no gentleman who was more fitted to hold the position. The motion was carried with acclamation. Mr. T. N. Fitzgerald (the President-elect) briefly thanked the meeting for appointing him to such a responsible position, which he would undertake with great pleasure.

THE GERMAN SOCIETY OF NATURALISTS AND PHYSICIANS.

NATURAL SCIENCE IN SCHOOLS. — At the annual meeting of the German Society of Naturalists and Physicians, Wisebaden, September, 1887, Herr Preyer (Wilhelm) read a paper on Natural Science and Schools. He maintained that (1) the laws of biology are violated by the forced intellectual development aimed at in schools as at present conducted; and (2) that the study of Latin and Greek is unnecessary and unprofitable, takes the place of objective and useful studies—for example, the natural sciences—and is altogether a painful infliction upon the young. The idea that modern culture rests upon a historic continuity with the classical ages, is based upon a self-deception; that continuity has been already broken by Luther, by Galileo, by Copernicus (and he might have added, by Isaac Newton). "The armies of Germany, not book-learning, have made her great." (!) Herr Preyer is on safe ground when he dilates on the injurious effects of school life in Germany upon the development of the body as a whole. Its harmonious growth is retarded and deranged by the artificial restrictions, the want of exercise, the over-studying (more than half the students are more or less short-sighted), and various other injurious influences. We are more fortunate in this respect in England, at least as regards outdoor exercise and medical supervision, but the natural sciences are still almost ignored.

ORIGIN OF SPECIES.—Professor Virchow next delivered an address dealing with the Darwinian theory. Darwin released the world from Cuvier's dogma of the unalterability of species; the species as a real object does not exist; only the individual exists. The individual is made up of organs. Now, if the species were unalterable, then individuals, like the separate parts of a crystal, would exactly resemble each other. But no one demands this, and, in fact, only the average of the special attributes of various individuals is required to characterize the species. The individuals are the more variable, as the number of their organs is greater. The variability of the individual is the foundation of the variability of the species. Virchow is not antagonistic to the theory of Darwin, but only to the excursive tendency of his disciples, especially as regards the acquirement and heredity of variations. Referring to the origin of life, the doctrine that it has always existed on the globe is pronounced false. There was once a time when nothing living existed. The Bible account of the creation, and the theory of primitive generation and evolution, were opposed to each other. The latter was only a presumption, a claim, of natural science. The sources of such generation were unknown to us, and Pasteur had refuted the idea that organic matter could arise from an agitation of inorganic matter. Darwin's idea was, nevertheless, a highly fruitful mental conception, an energetic ferment in the scientific world. Both Haeckel and Vogt had allowed that life might have originated on the earth in more ways than one. As regards the origin

of man, the first man could only have existed towards the end of the Tertiary period, or the beginning of the diluvium deposits, for no remains of man had been found in earlier formations. A few flints, bearing evidence of being shaped, were all we had of man even in the Tertiary series. It was not till the alluvial deposits were reached that human bones were found, and these were not so numerous as was supposed. The skull from the Neander valley, and the lower jaw from the Schipka cavern, gave no distinct evidence of a lower grade of organization than the present. The (evolutionists) "fanatics" rejoiced in being able to assert that these remains indicated a man corresponding to a living Australian native, but the latter, after all, was neither an ape nor a pro-anthropoidal man. The question of the origin of man was, in fact, an insoluble problem. In regard to the formation of the human race, the theologians and the natural science enthusiasts (*Fanatiker*) were of one mind; they both pre-supposed a primitive pair of individuals.

PLANT-LIFE AND PLANT-RESPIRATION.—Professor Detmer, of Jena, gave an address on Plant-life and Plant-respiration, and showed that many vital processes are common to animals and plants—for example, respiration (intra-molecular), digestion, and even the development of heat. The professor pleaded earnestly for an extension of natural-science teaching as advocated by Preyer. Such teaching did not have a materialist tendency, as generally supposed; on the contrary, it tended towards the ideal, if more weight was laid upon the vast connection subsisting between natural phenomena than upon experimental details.

PUTREFACTION AND INFECTIOUS DISEASES.—The address by Dr. F. Hueppe, of Wiesbaden, was perhaps the most interesting for the medical world. The title was: On the Relations between Putrefaction and Infectious Diseases, and the author began by a pithy and lucid historical sketch, extending from Hippocrates (of course) to the present time. In the course of this sketch we are reminded that Pringle and J. P. Frank, in the eighteenth century, declared that "putrid fevers" were due to putrefactions going on external to the organism, and Pringle recognized a relationship between epidemics of such fevers and the depth of the water level below the surface of the ground. Previously to this, if we except Frascatori in the Middle Ages, scarcely any attention had been directed to external influences from the time of Hippocrates, and, after him, of Diodorus. As for putrefaction itself, the idea that this was caused by the growth of low organisms was never even broached till the present century. The old view was that the term "life," connoted the absence of putrefaction, apparently because the healthy body resisted invasion by pathogenic germs. Against this view Henle strongly set himself, taking for his basis the investigations of Schwann and Cagniard Latour as regards *infusoria*, and those of Bassi and Audouin on infectious diseases. In fact, Henle's ideas were very advanced, for he thought that infective diseases were due to germs starting from without, and that these germs were due to putrefaction. Further, Henle ventured to argue that "it depends on special conditions what kinds of *infusoria* and plants develop, and the different kinds are not equally inimical to health." The natural development from this is that the living tissues resist pathogenic organisms during health, but that if this resistance be overcome the invading organisms develop, and decomposition goes on within the body, much as in external putrefaction, only modified in form and derivation by the tissues; and this conclusion has been confirmed by the investigations into the chemistry of bacteria by Nencki, Gautier, Selmi, and, above all, Brieger. Pettenkofer made a further step forward, for he divided the still hypothetical "infectious material" into entogenous and ectogenous. But his conceptions were too absolute. Pettenkofer held that the germs of infectious diseases were discharges from the body in

an unfit, ineffective condition, and that only after a process of ripening outside the body could they again produce the original disease. We know that the case is otherwise; that, as a rule, such germs are most effective when discharged from the body, and that they do not acquire increased vigor from contact with mother earth, as certain heroes of old did, but rather tend to lose vigor and gradually perish. Nevertheless, we owe Pettenkofer a great debt for so early recognizing that many disease-organisms do go through certain stages of development outside the body—in some cases, as in the spore-formation of anthrax bacilli, only outside it. Our knowledge now begins to be more precise regarding disease germs. Pasteur definitely established the fact that putrefaction and fermentation processes are due to the growth of the respective organisms. Next, as regards disease, F. Cohn put all the disease-producing organisms in one class apart. Davaine had already shown that anthrax bacilli were excitants of ordinary septicæmia. Koch taught us the isolation and cultivation of bacteri, and Panum showed that putrid fluids may act as poisons even when no organisms are present. By this last step, previous pathological conceptions were etiologically fixed, and "putrid intoxications," due to poisons elaborated by bacteria, were distinguished by diseases caused by the entry and development of the specific bacteria themselves within the system. It was afterwards shown that the system could be intoxicated from within by bacteria. To go back for a moment to the beginning of our own century, Majendie's researches deserve mention here, because he showed that certain substances were developed in septicæmias (in animals), which, when transferred to other animals, set up a similar disease. Semmelweiss, "the well-known gifted founder of aseptic surgery," extended this observation to man, and by his success in the treatment of puerperal fever was the first to establish a beneficient prophylactic therapeutical system. It will be seen that many problems regarding disease-producing organisms were only rendered possible of solution through the attempts of Pasteur, Hallier, and Klebs—acting with ideas contrary to those of Cohn, who placed all such organisms in one class—to cultivate and separate the different kinds of bacteria, attempts which Koch carried on to a glorious frution. It is now known, as regards a whole series of pathogenic bacteria, that they possess a saprophytic stage, and that their "parasitism" in the human body is not at all necessary to their existence as species, but only accidental, a view which Henle and Pettenkofer from epidemiological considerations had already strenuously advocated. Such is the substance of the historical sketch given in this remarkable address; the rest of which deals with recent systems of classification of bacteria, and of the diseases arising from them, a large part being devoted to the various organs of the body, as they are mainly involved in different diseases, especially cholera nostras, and cholera Asiatica. As regards this part, we have no space for further representations of the author's views, but some concluding remarks may be given as reflecting creditably on hygienic medicine in this country: "As long as a circulation of material goes on, as long as putrefactive processes are necessary as affording an intermediate stage between animal and plant life, so long will micro-organisms exist, adapted for the destruction of albumen, or by an alteration of the processes for albumen putrefaction. And so long as this occurs, organisms will continue to exist, which, owing to this adaptation, are capable of setting up disease in the human body. We can never altogether conquer putrefaction — *tamen usque recurret.* But if — to quote Lord Palmerston — we regard dirt as only something in the wrong place, and regard putrefactive processes in our immediate neighborhood as in the wrong place, because uncontrolable and dangerous, we are then

able to fight with those processes and their dangers without sacrificing the necessary processes for the circulation of material, together with their advantages. * * * Let these processes go on in the *humus* of the garden and the field, the meadow and the forest, where proper adaptation for plant life exist. * * * I adopt the English conception, which regards cleanliness — not a mere facade cleanliness, though—as health itself, and the best means of fighting against infectious diseases."

EDINBURGH MEDICO-CHIRURGICAL SOCIETY.

NOVEMBER 16, 1887.

The President, Dr. John Smith, in the Chair.

THE ÆTIOLOGY OF TUMORS.

Dr. SIMS WOODHEAD, in introducing a discussion on this subject, referred to certain observations which he had published some three years before, and remarked that the intervening time had only strengthened his previous conclusions. The doctrines first promulgated by Cohnheim were not sufficient to explain all the facts with which they had to deal. A careful study was rehearsed of the growth and development of the ovum, and the changes undergone by the different layers of the blastoderm. Some form of irritation or stimulation was necessary for the segmentation process. When this irritation became proportionately greater than the nutrition afforded, reproduction occurred without specialization. The tissues derived from each of the three layers of the blastoderm differed in respect of rate of development, and their several anabolic and catabolic phases were not contemporaneous. Hence the chances of disturbance were greater at different times in each of the groups. This suggested an explanation of the fact of the greater frequency in young subjects of tumors of the connective—tissue type, in adult life of mixed non-malignant tumors, and in old age of tumors of the epithelial type. While imperfect nutrition undoubtedly led to cell proliferation, the presence of an irritant in some form was to be postulated. They had also to recognize the existence of a hereditary tendency to tumor production, the special type depending on the age of the individual's parents, and the state of equilibrium of their tissues at the date of the individual's conception. Such a tendency, accentuated by passage through a succession of generations, might ultimately result in the establishment of a diathesis.

Professor CHIENE cited a large number of interesting cases in illustration of the thesis. He maintained that malignant tumors had their origin in some local irritation or injury. They must give the word irritant a wide significance.

Dr. JAMES was inclined to agree with the view advanced by Dr. Woodhead, and congratulated him on the biological soundness of his carefully elaborated generalizations.

Dr. DUNCAN said in such a discussion they must separate clearly between simple tumors proper and malignant growths. The former had their explanation in teratology, while malignant tumors were distinctively intrusive. They were probably zymotic in origin, and had their analogies in inflammation, tubercle, and syphilis. Probably it would be found that they were due to the action of micro-organisms, as had been fairly well demonstrated in the case of the three processes to which he thought them analogous.

Dr. BELL spoke of the clinical significance of injury, and referred to the popular idea that, for example, in the case of the mamma, tumor-formation was traceable to a blow or other injury.

MEDICAL SOCIETY OF LONDON.

Meeting, December 5.

Dr. Stephen Mackenzie gave a demonstration of the Filaria Sanguinis Hominis in blood and urine, and read a paper on a case in a patient under his care. He also went very minutely into the natural history of this insect, and as to whether or not it passes through the intestinal tract of the mosquito, en route for the human lymphatics. Interesting as were these remarks they had not, of course, that novelty which gave this branch of research its exceeding interest some years since. Dr. Mackenzie has had one or two very able predecessors in this department, but this has not prevented his adding to our knowledge of the subject.

Dr. Thorowgood read a paper on "Cardiac Failure in Pulmonary Obstruction." He had obtained very good results with tartar emetic to relax the capillaries, and nux vomica to stimulate the cardiac muscle. He mentioned the case of a child freely treated by stimulants until she was livid and unconscious, while the chest was full of coarse *râles*. The administration of small doses of the vinum antimonialis with fifteen-grain doses of sulphate of magnesia, was followed by complete recovery. He expressed the opinion that no remedy could replace the tartrate of antimony to relax capillary spasms and reduce congestion when secretion was established and the skin moist; then, if cardiac failure impended, he saw that alcohol was invaluable.

Dr. Routh called attention particularly to the effects of nitro-glycerine in just such cases. He had rescued quite a number of people by giving a quantity of a one-per-centum solution of nitro-glycerine on appropriate occasions.

Dr. Habershon lauded the hypodermic injection of strychnine in cases of impending cardiac failure.

A CURIOUS DISEASE, CALLED "HEAD-DROP."

BY DR. K. NAKANO.

In the region where I live there is a curious disease, called "head-drop," of which I heard many years since. At first, I supposed it to be a symptom of some disease, and so I did not bear it in mind. But the more I heard of the strangeness of the case, the more I desired to examine into it.

Last year, when cholera was prevailing, I was going the round of the villages for inspection, when I came to a house, the inmates of which were all in bed. Upon inquiry I discovered that they were affected with this "head-drop." As it had been my long desire, I immediately examined them. The case is, indeed, curious, but there is no other particular symptom to point out. I gave 5 grams of sulphate of quinine, and I was told that they were cured, two weeks after. I therefore pronounced the disease to be curable, and so many patients came to me that at last I hung up a notice regarding the treatment of head-drop, in January of this year.

Name and history.—Head-drop is the name by which the disease is called among the native people, and its history is not known. But from ancient time there were great numbers of patients, and, when attacked by the disease, the people, believing it to be incurable, did not take any pains to consult a physician; hence, nobody has investigated its pathology, and, accordingly, it has no proper name. I think the above is a name given from its outward appearance, and that it is a kind of endemic disease.

Character of the region of occurrence.—The region where this disease occurs is in wet places between mountains, where the current of air is not pure and the sun does not shine all the time; hence, there are no cases found by the sea shore or in high, dry regions. Moreover, those who live in such places are farmers, who generally eat bad food and drink bad water. So far as my experience goes, it seems there is no connection as to sex or natural constitution.

Condition of prevalence and cause of the disease.—It occurs in all seasons, but especially from the end of spring to the beginning of summer. When it prevails it does not attack all the people of the region, and even if in one village one family is affected, there may be none in neighboring families, and the family which was formerly affected by the disease often gets rid of it, and another in turn becomes the diseased family; hence, it seems to be not hereditary. Most people do not like to have communication with such a family. Again, if one person in a family is attacked by the disease, the rest of those in the house are usually affected also, but there is no evidence of affection by contact.

As to the cause of the disease I do not yet know, on account of my short experience. Judging from the symptoms of the attacks, I think there is no doubt that some kind of miasma or malaria attacks a part of the brain or spinal cord. It is not plain whether it causes anæmia or congestion, or attacks by exuding serous pigment, but there must be some part where congestion is caused. In mild cases it attacks a part of the medulla oblongata and corpora quadrigemina of brain, and in severe cases it attacks the end of the spinal cord severely by passing through it. It is said that one who is hungry is more easily affected. In the district around, there are a great many cases of ague every year, but it is curious that there are almost none in the place where this disease occurs, although the circumstances favor the occurrence of ague

hence, from the first, I thought it to be malarious cerebral disease.

Symptoms.—There are no prognostic signs, except uneasiness of mind and headache a few hours before the occurrence; but it comes suddenly, and the head becomes so heavy that it can not be kept upright, and so hangs down in front, and walking becomes unsteady, too. In some cases the congestion of conjunctiva and dilatation of pupils(?) produce double sight in one eye, and feeling in the neck becomes somewhat dull. In severe cases the patient has double sight in both eyes, and cannot walk in the sunshine. Moreover, the tongue becomes stiff, the speech slow, swallowing difficult, the loins paralyzed, and walking becomes difficult. The specific gravity of the urine discharged is somewhat heavy, the color transparent white, and white sediment appears after standing for a few hours. If it is warmed, or some acid is put in, it neither coagulates nor dissolves. If we examine it with the microscope, we observe two or three pieces of epithelium of the mucous membrane of the bladder, beside cloudy substances, while there is no trace of urea. If we examine for sugar by Trommer's test and subnitrate of bismuth, we often get reaction. Again, the case becomes so severe that at last one of the legs is paralyzed and loses sensation.

The following is the comparative table of patients:

63	Men—37	Below age of 15	12
		" " 25	29
	Women—26	" " 35	14
		" " 45	5
		" " 60	2

NOTE.—These 63 were all farmers, among whom were two men who were affected after being attacked by masked ague, but there have been no deaths from this disease alone.

Duration and prognosis.—Most are attacked when hungry, and continue to be affected from a few hours to a few weeks, and sometimes to two or three months. If any one is attacked once, he is apt to be attacked again, even in the same year. So the prognosis is said to be rather bad, though there is no pain to be felt. During the interval, the health of the patient does not differ from usual, and in mild cases little work is performed generally.

Treatment.—The patient feels no pain. The native people, anticipating its duration, do not consult a physician; hence I have not heard of any method of treatment. Before or during the occurrence, I gave pills of quinine and iron, with tonic medicines, and tried to check the progress of the disease by using quinine. Again, I tried stimulant on diseased parts, especially subcutaneous injection of camphor, and also irritative medicines, such as injection of strychnine, internal and external treatment of iodine and mercury, or applied counter-irritants, leeches, cupping glasses, blisters, and electricity; but some were cured and some not. And even those who were cured, it is perhaps only a temporary relief. It is curious to say that one who is affected when he is hungry, is cured immediately by taking much food.—*The Sei-I-Kwai Medical Journal, Tokyo, Japan.*

SACCHARIN.

Among the most remarkable of all the marvelous products of the coal-tar industry, as Sir Henry Roscoe has observed, may be ranked the body to which the name of saccharin has been given. This new sweet compound was originally named anhydro-ortho-sulphamine benzoic acid—a ponderous appellation truly, and one to be avoided for trade purposes at any rate; but, at the same time, we do not think the name saccharin, although in some respects appropriate, should have been applied to this body, as the same term has been in use since 1880, to designate the carbohydrate originally discovered by Péligot amongst the products of the action of lime on glucose or levulose.

There is no doubt as to the great value of the discovery of this coal-tar toluene product; but while not grudging Dr. Fahlberg the well-merited reward of his arduous labors and his brilliant discovery, still we think the statement that saccharin was discovered by him needs some modification; for, according to Remsen, the able professor of chemistry in the Johns Hopkins University, this substance came to light in the course of an investigation undertaken and carried on by Fahlberg, under his (Professor Remsen's) direction and superintendence. The new body in question was, in fact, first described in their conjoint paper in Vol. XII of the *Berichte d. Deut. Chem. Gesellschaft.*

The manufacture of this saccharin, or benzoic sulfinide as it is termed by Remsen, is now effected on a large scale, and a plentiful supply of the toluene from which it is prepared is always to be had. This toluene, or methyl benzine ($C_6H_5CH_3$) is obtained in the destructive distillation of coal, as in gas manufacture, being usually prepared by the fractional distillation of that portion of the coal-tar oil boiling at 100°–120°C. This new product is really neither an acid nor an anhydride, although, when an aqueous solution is neutralized with metallic carbonates, salts are obtained. Salts are also formed with the alkalies, which are very soluble, crystallizing in small needles, and having a sweet taste. When fused with potash it is easily converted into salicylic acid.

Saccharin forms a white crystalline powder, which fuses at a temperature of 200°C., when it undergoes partial decomposition, giving off a characteristic odor; it is but slightly soluble in cold water, somewhat more so in warm water, its solubility being, however, greatly increased by the presence of alkalies or their carbonates. Alcohol also furnishes a good solvent for saccharin, particularly 80 per cent. solutions, and it is likewise freely soluble in warm glycerine; but its most characteristic property is certainly its sweetening power, possessing nearly three hundred times that of cane sugar, for while a solution of cane sugar loses its sweetness when diluted to 1 in 250, a sweet taste is still perceptible in a watery solution of saccharin containing 1 in 70,000.

As sugar is a carbo-hydrate, its solutions are liable to undergo fermentation; but as saccharin is an aromatic derivation, it is not liable to undergo this decomposition, and hence it may be freely employed without the fear of destructive fermentation occurring. But, besides this, as saccharin possesses considerable antiseptic powers, its use in medicine may be attended with advantage—as, for example, in cases of alkaline fermentation of urine, upon which it has been shown to exert a strongly retarding influence.

Stutzer, Aducco, and Mosso, from their experiments with this body, agree in the belief that it is innocent, so far as the

organism is concerned; and Stutzer's experiments further show that its presence has no retarding influence on the digestion of either proteids or hydrocarbons.

However administered, saccharin soon finds its way into the urine unaltered, this fluid not being altered thereby. And, while producing no injurious effect on the system, it is found to agree both with invalids and healthy individuals, and no anxiety as to its effect upon the health need be felt, even when taken for lengthened periods. As much as thirty to eighty grains have been administered daily without producing any injurious effect, even upon the appetite. Saccharin may therefore be said to be neither a food nor a poison; but from its peculiar properties it may often be employed therapeutically with advantage. Thus, it may with benefit wholly or partially replace sugar in the diet where the latter is contra-indicated, as in diabetes, general obesity, torpid liver, marked gouty diathesis, chronic glandular diseases of children, and in certain senile affections in which various cystic and genito-urinary disorders occur. In two cases of diabetes in which we tried it we found its use attended with marked benefit.

From half a grain to a grain and a half of saccharin will sweeten a cup of tea or coffee. Small saccharin tablets, indeed, have been prepared for this purpose, and these are now being supplied, it is said, to the German army; for in a very small bottle of scarcely appreciable weight a soldier can carry enough saccharin for a week's supply.

There is a wide field for the application of saccharin to the production of sweetmeats and preserves, and in disguising the taste of bitter and nauseous preparations, as well as in preserving the properties of others. But it must always be carefully borne in mind that saccharin is to be regarded as a condiment, and not as a food like sugar, and can therefore replace sugar only in exceptional cases.

SACCHARINE "TABLOIDS."

This remarkable product of chemical science is likely to come rapidly and extensively into use, and these tabloids are of a most convenient form for ordinary domestic purposes. One tiny tabloid dropped into a cup of coffee or tea sweetens it most agreeably and innocuously, and thus the diabetic or glycosuric patient, who has been so long deprived of the pleasure of sweetening his food, can carry a little glass tube of these tabloids in his waistcoat pocket, using them as he would lumps of sugar. One tabloid is the full equivalent in sweetening power of an ordinary lump of white sugar. Saccharin is not easily soluble in water. These tabloids are, therefore, intelligently mixed with just enough alkali to make them perfectly soluble. From their extremely convenient and compact form, they will probably soon become popular for military or other purposes where bulk is a thing to be taken into consideration.—*British Medical Journal.*

A CURE FOR WRINKLES.

A curious application has been made of the absorbable properties of lanolin in the treatment of wrinkles. Although not strictly speaking a pathological condition, it is one which is even a more serious, because less avoidable, evil than freckles. When well rubbed in, lanolin passes directly into the skin, and acts as a nutrient to the subjacent tissues, with the effect of smoothing out the folds produced by the attenuation of these structures incidental to age. Several elderly ladies, who were induced to give this method of treatment a trial, are said to have been delighted with the result. —*Medical Press and Circular.*

CHOLERA AT NEW YORK.

Within the last sixty years the United States have suffered from five epidemics of cholera, which have uniformly followed the prevalence of the disease in Europe, namely, in 1832, 1849, 1854, 1866, and 1873. In each instance the disease was brought by immigrants from Europe. The arrival of the French steamship *Alesia* at New York, on September 23 last, with cases of cholera on board, was therefore sufficient to cause anxiety to some people as to the possibility of the infection reaching the shore. The *Alesia* sailed from Marseilles on August 30, and arrived at Naples on September 1. There she took on board about 300 emigrants and 3 cabin passengers, making her total complement 609 persons, exclusive of the crew of 45 men. The vessel left Naples on September 3, and until September 12 all appears to have gone well. Then, however, cholera unmistakably broke out amongst the Italians who had been shipped at Naples, and before the vessel reached American waters six persons (including two of the crew) had died from the disease, and had been buried at sea, and a number of other cases had occurred. One of the deaths ensued within eighteen hours after attack, whilst the illness of none of the fatal cases exceeded three days. On arrival at New York the vessel was taken in hand by Dr. Smith, the health officer, who vigorously applied the principles of isolation, sequestration, and disinfection, relied upon in America for preventing the spread of disease from shipping. Some sixteen patients were at once removed to the hospital on Swinburne Island, and a number of other passengers, who had been exposed to infection, were kept under observation at Hoffman's Island. The vessel itself appears to have been in a dirty condition, and was forthwith cleansed and disinfected. Since the arrival of the vessel at New York twenty additional deaths from cholera and a number of further cases have occurred amongst the passengers.

Dr. Smith has expressed an unhesitating opinion that there is no danger of any spread of the disease on shore. The precautions against the entrance of cholera have been constant ever since the disease began its ravages in Italy. The passenger list of every vessel that arrives is watched, and all immigrants from infected parts are carefully inspected. Even when the immigrants themselves show no signs of disease, their baggage is thoroughly fumigated. The facilities for caring for the sick are good, and the accommodation for the "quarantined" passenger is satisfactory. There are some people in New York, however, who are apprehensive that cholera may appear in the city next spring. It will be seen that quarantine as practiced in many European countries is not now fol lowed in the United States, but that the preferable system of medical inspection of ships is in vogue.

Good sanitation on shore and watchful care to secure the isolation and disinfection of the first cases of infectious disease are the principles relied upon. Although the term "quarantine" is now in common use in connection with the preventive measures adopted at New York and other American ports, its use does not imply detention of vessels for any specified time, but only for such time as is needful to determine the presence or absence of infection, and to effect, if present, its destruction. The removal to hospital of infected passengers or members of the crew, and of others to proper quarters, is provided for, as well as the careful disinfection of clothing, baggage, and cargo. But there seems to be some local dissatisfaction at New York respecting the scantiness of the sums voted by Congress for securing the completely

efficient carrying out of this programme. If there is any substantial ground for such dissatisfaction it is regrettable. The last occasion on which cholera was brought into New York waters was in September and October, 1873, when four steamers -- one from Hamburg — arrived, having cases of sickness on board. The disease then, unfortunately, reached the mainland.—*British Medical Journal.*

THE BACILLUS OF SCARLATINA.

The report of the committee appointed by the Edinburgh Medico-Chirurgical Society to investigate the organisms of scarlatina, although not a final one, nevertheless contains some interesting facts. The most important of these is the doubt expressed by the committee as to whether calves are at all susceptible to the scarlatinal poison. In conjunction with Professor MacFadyean they injected scarlatinal blood into two calves, and fed a third with desquamated scales. All three experiments gave negative results. This observation is an important one, and it is to be hoped that the experiments on this subject will be continued. For it will be remembered that the keystone of Dr. Klein's research is the assumption that cattle can take scarlatina, while both Dr. Klein and Mr. Edington lay some stress on the results of the inoculations of their organisms on calves. Mr. Edington inoculated two calves, one of which died within twenty-four hours, and the other, which was only one day old, recovered after a short ilness, in which the prominent symptons were high temperature, inflamed throat, and redness of the skin, followed by desquamation. If the committee definitely show that cattle of every age are incapable of being affected by the scarlatinal poison, the assumption on which Drs. Power and Klein base their views falls to the ground, while the result of Mr. Edington's experiment tells rather against than in favor of the idea that his bacillus is the cause of human scarlatina.

A second point of importance is the statement that the micro-oganism described by Mr. Edington under under the name of streptococcus rubiginosus is morphologically identical with the streptococcus scarlatinæ of Klein. According to Mr. Edington, this organism is not present in the blood in the early stage of the disease, and its inoculation into rabbits, guinea-pigs, and pigs gave negative results. Whether, though morphologically identical with Dr. Klein's organisms, it is really the same, has not yet been determined. In connection with this microbe, the fact stated by Mr. Edington in his letter to the committee is interesting, namely, that his brother drank a cultivation of this organism thirty-six hours old, and made directly from scarlatinal blood taken on the fourth day of the disease without showing any bad result, although the streptococcus rubiginosus was found in his blood three days later, and although he had never had scarlet fever.

It is also interesting to note that the results of the microscopial examinations and cultivations made from the blood were by no means constant. In ten cases of scarlet fever examined microscopically on or before the third day, bacilli and micrococci together were found in three cases, micrococci alone in four, and no micro-organisms in the remaining three. The results obtained by cultivation were very similar; in four out of nine cases bacilli and micrococci appeared in the culture material, in two micrococci alone, and in three the result was negative.

The committtee also express their belief that Mr. Edington's bacillus scarlatinæ is not identical with the bacillus recently found by Dr. Smith in the skin, and supposed by him to be the same, nor with the bacillus butyris, nor the bacillus subtilis. It is to be hoped that the commitee will continue their investigations on this interesting and important subject.—*British Medical Journal.*

STELLATE AND TRABECULAR KERATITIS.

At the Congress of the French Association for the Advancement of Science, M. Gillet de Grandmont gave the following description of two new forms of keratitis. Keratitis in dotted furrows (*sillons etoilés*) is formed by diminutive sub-epithelial, star-shaped ulcerations. The rays of these ulcerations gradually develop into rectilinear furrows, forming serpiginous ulcerations, which occasionally produce sphacelus. Antiseptic treatment should be used. Trabecular keratitis is caused by the infiltration of the lymphatic cells into the corneal tubes, which present the appearance of small needles. This keratitis appears whenever the lymphatic circulation of the eyes is obstructed. The treatment consists in restoring the circulation by syndectomy, or by the evacuation of the aqueous humor. Trabecular keratitis may be either primary or secondary; it always follows kerectomy. In this case the trabeculæ are parallel with each other, and perpendicular with the curve of the fragment. They disappear as the wound cicatrizes.

Dr. Stœber (Nancy) made the following communication on the Binocular Convergent Function and the Metric Angle. Binocular vision is only possible where the different retinal images are perceived simultaneously. For this the two lines of vision must be parallel (in cases of emmetropia and absence of accommodation), and the distance between the center of the pupils at its maximum. When the object approaches the observer each eye must be optically adapted to the distance of the object. The two lines of vision must be directed on the object, in order to fuse the images produced in each eye into one perception. This direction of the lines of vision, which varies according to the distance between the eye and the object, is termed convergence; the relation between the two extreme points (infinity and the nearest point of distant binocular vision) is termed the power of convergence. Every line of vision directed to a near point makes a convergence or metric angle with the line of infinity. This angle is measured by Landolt's ophthalmo-dynamometer. Emmetropic, myopic or hypermetropic eyes placed in normal visual conditions, and directing their visual rays to a distance of one meter, have a metric angle which is equal to one; but the distance which separates the two rotary centres of the eyes, which is the basis line, must be measured. The convergent capacity is proportionate to the degree of accommodation, excepting in the case of extreme limits. It is greater in a myopic than in an emmetropic eye; it is weaker in a hypermetropic than in a normal eye.—*British Medical Journal.*

NEW UTERINE SUPPORT FOR HORSEWOMEN.

R. J. Maitland Coffin, F. R. C. P. Ed., in the "British Medical Journal," says:

Shortly after my association with the "Wild West," I asked the frontier girls whether the violent riding did not shake them considerably, and was told that at times they suffered a great deal of pain. I advised them to get abdominal belts to keep themselves together whilst riding; they did so, and felt great benefit therefrom. On talking the matter over with Mr. E. Huxley, of Old Cavendish street, he suggested a uterine support, which consists of a peculiar shaped pad, with two straps which cross over the sacrum, and are brought to the front and fastened, with any amount of tightness the wearer may find desirable. I got him to make one for each of the girls, and they say they are such a comfort and support that they will never ride without them. I think the belt will prove a great blessing to ladies in the hunting field, as well as to professional riders.

ELECTROLYSIS IN THE TREATMENT OF OBSTRUCTION OF THE CANALICULUS.

The *British Medical Journal*, December 24, 1887, presents a report from Dr. W. E. Steavenson and W. H. Jessop, M. B., on the relief of epiphora, due to obstruction of the canaliculus, by the use of electricity. The number of cases reported is ten. They were consecutive and all of them relieved, at any rate for the present. In several instances the report would justify the assumption that it was drawn up by one not very familar with electrical observations; for example, we read "at the positive pole the metal is dissolved as well as the tissues." The expression may be justifiable if the electrode were made of the easily oxidizable metals, but would any one think of using any but a platinum electrode for such work. We might refer to several other expressions of a like character, but reserve the space for the main points of the operation.

Observations were confined to obstruction of the punctum and canaliculus: number of cases, ten; average age of patients, 38 years. Duration of affliction previous to treatment varied from ten weeks to seventeen years. The length of time the patient was under observation seems to average about three months, although the trouble seems to have been relieved frequently after two or three applications of the electricity. In two out of the ten cases, twenty per cent., a mistake was made in using the positive instead of the negative electrode in the canaliculus. The operation was confined in all the cases to the lower canaliculus.

The battery used consisted of four to six Stohrer's cells but it is deemed necessary to use a galvonometer on account of the difference which sometimes exists in the resistance of the tissues. Two to four milliamperes are said to be sufficient. The current is continued for a time varying from fifteen seconds to a minute ; the size of probe used to pass through the canaliculus varies from 0.5 mm. to 1.5 mm. The negative pole—never the positive—must be introduced through the canaliculus into the sac ; the positive can be applied on the nape of the neck. It is said that when a probe 0.5 mm. was inserted with difficulty immediately after the operation one of 1.00 mm. could be introduced easily. The probe should be attached to a handle furnished with a current-breaker, and care must be taken not to allow the current to pass directly through the eye. One of the two cases in which the positive pole was used in the canaliculus developed a lachrymal abcess, and it was found necessary to probe the other on alternate days so as to prevent occlusion ; both, however, are reported cured and the epiphora relieved.

BOOK-REVIEWS.

CLINICAL MANUAL FOR THE STUDY OF MEDICAL CASES. Edited by JAMES FINLAYSON, M. D., Physician and Lecturer on Clinical Medicine in the Glasgow Western Infirmary; Physician to the Glasgow Hospital for Sick Children; President of the Glasgow Pathological and Clinical Society; Honorary Librarian to the Faculty of Physicians and Surgeons, Glasgow, etc. Second Edition. Revised and enlarged. With 158 illustrations. Philadelphia: Lea Brothers & Co., publishers. 1886.

The second edition of Professor Finlayson's most excellent Manual of Clinical Medicine is a very welcome addition to the very few good books on that subject. The work is too well known to require a description here. It is sufficient to say that the subject is thoroughly revised to the present date, and that every physician and student will find it a most pleasant and profitable companion.

F. B.

HYDROPHOBIA. AN ACCOUNT OF M. PASTEUR'S SYSTEM. Containing a translation of all his communications on the subject, the technique of his method, and the latest statistical results. With seven illustrations. By RENAUD SUZOR, M. B. C. M., Edin., and M. D., Paris. London: Chatto & Windus, Piccadilly. 1887. For sale by J. B. Lippincott Company, publishers, booksellers, and stationers, Philadelphia.

This small manual of 231 pages is divided into three parts. The first chapter, of 30 pages, gives a short description of hydrophobia, and its history from the earliest times down to the end of 1880.

The second chapter, of 128 pages, contains all the communications of M. Pasteur made to the Paris Academy of Medicine, with histories of cases treated.

The third chapter, of 83 pages, contains the technique of M. Pasteur's protective and curative method, with results of other operations, and a synopsis of a report of the British Parliamentary Commission, appointed to investigate Pasteur's method.

It is a valuable book to one who desires to know M. Pasteur's theories and methods of work.

The publishers' work is well done; the paper good, and the type clear. F. B.

PRACTICAL MICROSCOPY. A COURSE OF NORMAL HISTOLOGY FOR STUDENTS AND PRACTITIONERS OF MEDICINE. By MAURICE N. MILLER, M. D., Director of the Department of Normal Histology in the Loomis Laboratory, University of the City of New York. Illustrated with one hundred and twenty-six photographic reproductions of the author's pen-drawings. Pp. 217. New York: William Wood & Company. Chicago: W. T. Keener.

The author's aim has been to guide the student in his technical work, and to give him sufficient instruction in the microscopic anatomy to enable him to correctly interpret what he sees. He gives the methods taught to his students in the Loomis Laboratory; these embody the simpler and most generally satisfactory processes of hardening, cutting, staining, and mounting tissues. And in the chapters devoted to the different tissues and organs, the methods best adapted to each are specially considered.

By far the greater part of the book is devoted to descriptive histology, illustrated by numerous cuts. The descriptions are condensed and not always lucid. The cuts are nearly all coarse; with few exceptions they are diagramatic, and in some instances misleading. This seems inexcusable in an age when book-illustration has become a fine art. The work does not reflect much credit upon either the author or the publishers.

DISEASES OF THE LUNGS AND PLEURÆ, INCLUDING CONSUMPTION. By R. DOUGLAS POWELL, M. D., Lond., Fellow of the Royal College of Physicians; Physician to the Middlesex Hospital, and to the Hospital for Consumption and diseases of the Chest, at Brompton; late Assistant Physician and Lecturer on Materia Medica at the Charing Cross Hospital. Third Edition. Re-written and enlarged, with illustrations, including two lithographic plates, being Vol. XI, of Wood's Library for 1886. New York: William Wood & Company. Chicago: W. T Keener.

The third edition of Professor Powell's book is an amplified edition of the work on "CONSUMPTION AND ON CERTAIN DISEASES OF THE LUNGS AND PLEURÆ," which was published in 1878. The entire work of the old volume has been reconsidered and rewritten, and new chapters have been added

on the Physical Examination of the Chest; on Asthma; on the Etiology of Phthisis; on the Complications of Phthisis; on the Surgical Treatment of Pulmonary Cavities; on Hydatid of the Lungs, and on Mediastinal Tumors.

An unusually large and satisfactory part of the book is devoted to the treatment of the diseases of the lungs and pleuræ. One chapter is devoted to the climatic treatment of phthisis, which will not be satisfactory to American physicians because our climate is not considered. The principles of climatic treatment indicated will enable one to select a suitable climate in our own country.

The chapters on pathology are very satisfactory, and the conclusions are in accord with those of the best pathologists of the age.

The publishers' work is very well done; the type is clear and easily read. F. B.

FEVER NURSING. Designed for the use of Professional and Other Nurses, and Especially for Nurses in Training. By J. C. WILSON, A. M., M. D. Pp. viii and 210. Philadelphia: J. B. Lippincott Company. 1888. Chicago: W. T. Keener.

This volume concludes the series of "Practical Lessons in Nursing," issued by its publishers. It "embodies the substance of a course of lectures on Fever Nursing, twice delivered before the Nurse-Class at the Philadelphia Hospital." This will prove the most generally useful of the series, and is an excellent book in every way.

The arrangement of topics is good, and the treatment of the points discussed is plain, concise, and as complete as the object intended demands. The literary style is clear and attractive. The book will be most useful as a text-book for nurses in training, and for this purpose it may be very highly commended. E. W.

DIET IN RELATION TO AGE AND ACTIVITY. By SIR H. THOMPSON, F. R. C. S. Pp. vi and 94. Boston: Cupples & Hurd. 1888. Chicago: W. T. Keener.

This is a re-publication, with some slight additions, of an article which first appeared in the *Nineteenth Century*. The author's reasons for the re-publication are "numerous demands," and "a profound conviction of the importance of the subject." He states it as his conviction that "more than one-half of the disease which embitters the middle and latter part of life among the middle and upper classes of the population is due to avoidable errors in diet."

The book consists mainly of a dignified and graceful protest against the idea so prevalent among the classes mentioned, that an increase in weight is desirable as old age approaches. E. W.

DOCTOR AND PATIENT. By S. WEIR MITCHELL, M. D., LL. D. Pp. 177; 12 mo. Philadelphia: J. B. Lippincott Company. 1888. Chicago: W. T. Keener.

The very high esteem in which the author of this book is held, both as a writer and as a physician, is amply sustained by the merits of this his latest volume. It consists in a number of essays which deal with the mutual relation of physician and patient, and are intended to interest the laity more than the medical attendant, and are particularly addressed to nervous women. The book will find its largest circle of readers among the laity, and they will derive the most practical benefit from it, but its most appreciative readers will be those doctors who realize that the richest rewards which their work brings them are not financial ones. The author says that he was tempted when he wrote these essays to call them lay sermons, so serious did some of their subjects seem to him. "They touch, indeed, on matters involving certain of the most difficult problems in human life, and involve so much that goes to mar or make character, that no man could too gravely approach such a task."

A list of the titles of the essays can convey a better idea of the scope of the volume than anything which the limits of such a notice as this allows, and is consequently given here: Introductory; The Physician; Convalescence; Pain and its Consequences; The Moral Management of Sick or Invalid Children; Nervousness and its Influence on Character: Out-Door and Camp-Life for Women.

The fact that the value of a book bears no sort of relation to its size is strikingly exemplified in the volume under consideration. The overworked doctor, who is at times tempted to think that too much bread which never returns is cast by him upon the waters of an unappreciative clientéle, will find a wealth of comfort and solace in reading its suggestive and gracefully written pages.

LECTURES ON THE DIAGNOSIS OF DISEASES OF THE BRAIN. By W. R. GOWERS, M. D., F. R. S. Second Edition, pp. vii, 254. Philadelphia: P. Blakiston, Son & Company. Chicago: W. T. Keener.

This second edition of Gowers' eighteen lectures is issued by the Messrs. Blakiston & Company in the neat dress which characterizes the books which come from that well-known house. It is free from that affectation of uncut leaves of English publishers generally, which necessitates the trouble of cutting the leaves, and which causes an unsightly edge as a consequence.

The author has thoroughly revised the book and

corrected some defects which existed in the first edition.

In the opening lecture, as an appropriate introduction, the "Medical Anatomy of the Brain" is given briefly, preparatory to considering its normal action. Then, as the book is designed as an aid to diagnosis, the abnormal conditions, whether functional or organic, are presented in so clear and interesting a manner as to make it one of the best manuals on that subject in the English language. The lectures which treat of impairment of the function of the special senses are particularly interesting.

TEXT-BOOK OF THERAPEUTICS AND MATERIA MEDICA. Intended for the Use of Students and Practitioners. By ROBERT T. EDES, A. B., M. D., Professor of Materia Medica and Jackson Professor of Clinical Medicine in Harvard University, etc. Pp. xi, 552. Philadelphia: Lea Brothers & Co. Chicago: A. C. McClurg & Co.

This is an elementary text-book avowedly written, compiled, and abstracted for the benefit of "overburdened students and young practitioners." Doubtless there is a legitimate demand for the best of such books, of which this is certainly one, since with the advance of medical science the less useful information must be eliminated in order that the student may learn the more truly valuable. It would seem, however, that the pruning process might have been less vigorously applied to the parts pertaining to pharmacology. The physiological action of digitalis, for instance, is treated in a manner wholly incommensurate to its importance, and the physiological effects of belladonna as represented by its alkaloidal salt, sulphate of atropia, are tabulated with a brevity which renders them difficult of comprehension except to those already familiar with the subject. Many details of materia medica proper and pharmaceutical data can well be left to the educated pharmacist, but medical students should be taught with thoroughness and precision modern pharmacology and the associated therapeutic principles which underlie the rational application of drugs to the cure of disease.

The work contains many excellent features. The classification, in part original, is well devised, and includes within its scope all the newer remedies. Among hypnotics we note paraldehyde, urethran, and hypnone; among antipyretics, salol, antipyrine and antifebrine; among cardiac stimulants, strophanthus; while iodol, resorcin, lanolin, "cucaina" (cocaine), and others, receive due consideration. Useful alkaloids and active principles, also, are noticed at length.

The typographical arrangement is such that the names of the more important drugs and preparations appear in "Roman Capitals," the less important in "small capitals," and the non-officinal inclosed within brackets.

The phraseology is clear and concise, and at the same time colloquial in style, so that the book is not by any means the "dry reading" which its subject is ordinarily presumed to supply. It can be perused with pleasure and profit by all. W. E. C.

BOOKS RECEIVED.

Diet in Relation to Age and Activity. By Sir H. Thompson, F. R. C. S.

An Index of Materia Medica. By Charles H. May, M. D., and Charles F. Mason, M. D.

Fever-Nursing. By J. C. Wilson, A. M., M. D.

Doctor and Patient. By S. Weir Mitchell, M. D., LL. D.

Rectal and Anal Surgery. By Edmund Andrews, M. D., LL. D., and E. Wyllys Andrews, A. M., M. D.

Practical Microscopy. By Maurice N. Miller, M. D.

The Practice of Medicine and Surgery Applied to the Diseases and Accidents Incident to Women. By W. H. Byford, A. M., M. D., and Henry T. Byford, M. D.

Hand-Book for Young and Old Opticians. By W. Bohne.

Gynecological Diagnosis, General Gynecological Therapeusis. By R. Chrobak, M. D.

Electricity in Gynecology and Obstetrics. By Egbert H. Grandin, M. D. Being Volume V, of The Cyclopedia of Obstetrics and Gynecology.

Volume VIII, of Cyclopedia of Obstetrics and Gynecology. Diseases of the Ovaries. By R. Olshausen.

Volume XI, of Cyclopedia of Obstetrics and Gynecology. Sterility, by P. Müller, M. D., and The Menopause, by E. Börner, M. D.

Volume XII, of Cyclopedia of Obstetrics and Gynecology. Diseases of the Tubes, Ligaments, Pelvic Peritoneum and Pelvic Cellular Tissue; Extra Uterine Pregnancy, by L. Bandl, M. D., and Diseases of the External Female Genitals, Lacerations of the Perineum, by P. Zweifel, M. D.

The Rectum and Anus; Their Diseases and Treatment. By Charles B. Ball, F. R. C. S. I.

PAMPHLETS RECEIVED.

Wounds, their Aseptic and Antiseptic Treatment. By David Prince, M. D.

The Radical Treatment of Trachoma. By A. E. Prince, M. D.

Report on Progress in Medicine. By J. B. Marvin, M. D.

Progressive Muscular Atrophy, Beginning in the Legs. By J. B. Marvin, M. D.

Statistical Report of 5,700 Cases of Ear Disease. By S. S. Bishop, M. D.

Operation for Mastoid Disease. By S. S. Bishop, M. D.

Treatment of Chronic Suppurative Otitis Media. By S. S. Bishop, M. D.

Report of Proceedings of the Illinois State Board of Health, Annual Meeting, January, 1888.

Transactions of the American Ophthalmological Society, Twenty-Third Annual Meeting, 1887.

Hypertrophy of the Tonsil of the Tongue. By J. W. Gleitsmann, M. D.

Four Months Among the Surgeons of Europe. By N. Senn, M. D., Ph. D.

ITEMS.

FEVER-GERMS IN DRINKING WATER.—About the 1st of August last, a stranger came to Iron Mountain affected with typhoid fever and died there. No attempts were made to disinfect the surroundings, and from this the fever spread until there have been 350 cases of typhoid fever and thirty-five deaths there. Dr. Vaughan, of the University of Michigan, inoculated sterilized meat preparations and sterilized milk with the Iron Mountain well water, and kept the preparation at the temperature of the body for seven days; a germ developed which was inoculated into some of the lower animals, which became sick with typhoid fever.

It was thus proved that the typhoid fever at Iron Mountain was produced by the use of impure water. Dr. Vaughan says that freezing does not destroy the germ. The ice which the Iron Mountain people used came from a very suspicious source, and no doubt contained germs of typhoid fever. This is the first time that the plan mentioned has been employed to produce the disease in the lower animals from the cause-germ obtained directly from drinking water.

JABORANDI AS A GALACTOPHORE.—A Liege contemporary has called attention to the peculiar influence of jaborandi on the lacteal function. So marked is this said to be that spurious specimens of jaborandi are reported to have been detected from the absence of this property. At the same time its effect is only produced to advantage in a certain class of cases, the precise indications for its use not having been as yet ascertained. In the case of a strong woman, weighing over fifteen stone, whose milk secretion had ceased since more than a fortnight, ten drops of the fluid extract of jaborandi, given every four hours, secured an immediate return of the secretion. Things went on well for a time, but in the course of a few weeks the patient became subject to hallucinations and fits of violent excitement. The jaborandi was suppressed and the symptoms disappeared—and the milk with it.—*Exchange.*

It is not generally known that the Emperor of Brazil is suffering from a somewhat advanced stage of diabetes. This makes his extraordinary activity of mind and body all the more remarkable. It is impossible to withhold a tribute of admiration for the indomitable "pluck" of a man who, while suffering from a complaint of the most depressing nature, continues not only to discharge the duties of his high office with unbated vigor, but takes so keen and so comprehensive an interest in all things connected with the progress of knowledge and the furtherance of human happiness.—*Exchange.*

ANTI-PYRIN is coming more and more into favor, and will soon supercede quinine. Its manifold properties are being discovered daily. M. Chouppe mentioned before the Société de Biologie a case of uterine colic treated successfully by the drug. The case was one of uterine myoma, for which ergot was given in large quantities, causing extremely painful contractions. Thirty grains of anti-pyrin, by the rectum, caused all pain to cease in twenty minutes, although the contractions persisted with the same strength.—*Exchange.*

DR. MANSON, an English physician, has been summoned from Hong-Kong to take medical charge of the young Emperor of China, this being the first occasion on which a foreign doctor has ever attended a member of the imperial family.—*Ex.*

PROFESSOR GRAWITZ states that *trichina spiralis* have been found in as many as one-third of the cases of so-called muscular rheumatism which have been examined post mortem.—*Ex.*

Daniel Brainerd M.D.